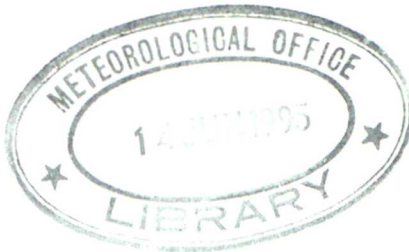


DUPLICATE ALSO



UK METEOROLOGICAL OFFICE GLOBAL DATA MONITORING REPORT

MAY, 95

Forecasting Systems Division
Meteorological Office
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RG12 2SZ

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CONTENTS

1. Introduction
2. Global Data Monitoring Statistics
3. Composite Observing Systems for the North Atlantic (COSNA)

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Bracknell. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Bracknell in time for inclusion into the appropriate analysis. The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background field). Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

Comments or queries on the report are welcome and should be addressed to:-

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1-2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIBU observations received per day throughout the month at Bracknell and assimilated into model runs. Only data from the main hours of 00 UTC, 06 UTC, 12 UTC and 18 UTC are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At RSMC Bracknell, for synoptic stations at or below a height of 500 metres, reported mean sea-level pressure is used in the statistics. If this is unavailable the mean sea-level pressure is calculated from the reported station-level pressure and temperature.

For synoptic stations above 500 metres, the mean sea-level pressure is calculated from the reported station-level pressure and temperature, or, if these are not available the height of a standard pressure-level (e.g.: 850 hPa or 700 hPa). If neither of these are available, the reported mean sea-level pressure is used.

Some stations vary their reporting practice according to the observation hour (e.g.: some stations in the CIS report both mean sea-level and station-level pressure at 00 & 12 UTC, but only mean sea-level pressure at 06 & 18 UTC). For monitoring purposes, reported mean sea-level pressure is stored separately from that calculated from station-level pressure or height of a standard pressure-level. Only statistics for the preferred method (see above) are presented in this report, and so for certain high-level stations, such as those from the CIS, approximately half of the number of observations actually received will appear in the statistics.

Aircraft observations

TABLE 4 contains a list of statistics calculated from data received from all airline carriers.

Figure 3 shows 10 degree lat/long box average numbers of AIREP/ASDAR reports received per day throughout the month at Bracknell and assimilated into model runs in the layer 70-500 hPa. Observations with a vector wind difference (compared with the model background field) of $>60 \text{ ms}^{-1}$ have been excluded. Box average values are plotted as the nearest whole number (values of $\times 0.5$ are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5 , then 0 is plotted.

Figures 4-7 show wind statistics for AIREP/ASDAR in the layer 70-500 hPa. Observations with a vector wind difference $> 60 \text{ m s}^{-1}$ have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Bracknell and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of $\times 0.5$ are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5 , then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-27 show satellite mean observation-background temperature differences for NOAA-12 soundings at 500 km resolution. Data are plotted where there are > 30 observations in a 10 degree lat/long box.

Figure	Layer (hPa)
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25	850-1000
26	100-300
27	30-50

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Bracknell during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Bracknell in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Bracknell from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics (**Geopotential Height and Windspeed at 100 and 500 hPa**) for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

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Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: BRACKNELL
MONTH: May, 95

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for ships, fixed buoys and platforms.
Standard of comparison	:Background field from Bracknell global model.
Observation times	:00, 06, 12, 18 UTC
Elements monitored	:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (Degrees).
Parameters monitored	

:NOBS	:Number of observations received excluding duplicates.
:NGE	:Number of observations with gross errors.
:PGE	:Percentage of observations with gross errors.
:SD	:SD of difference of observations from background values excluding those with gross errors.
:BIAS	:Mean difference of observations from background values excluding those with gross errors. N.B. a positive bias indicates the observation is veered to the background.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT	:15 hPa (pressure)
	:25 m s^{-1} (vector wind)

SELECTION CRITERIA	:NOBS ≥ 20 , and one or more of the following:
1. bias	≥ 4 hPa (pressure), ≥ 5 m s^{-1} (wind speed), ≥ 30 degrees (direction).
2. SD	≥ 6 hPa (pressure), ≥ 80 degrees (direction).
3. PGE	≥ 25

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE									
BONH	ALL	MSLP	SUR	51	0	0	1.0	5.8	5.9
CG2613	ALL	MSLP	SUR	22	2	9	6.3	-4.1	7.5
CZ9742	ALL	MSLP	SUR	29	29	100	0.0	0.0	0.0
C6FA6	ALL	MSLP	SUR	34	0	0	0.8	-6.3	6.4
C6IL3	ALL	MSLP	SUR	43	0	0	0.9	4.4	4.5
C6KP	ALL	MSLP	SUR	33	1	3	2.5	-12.5	12.7
DEFL	ALL	MSLP	SUR	40	1	2	1.1	-5.6	5.8
DIOR	ALL	MSLP	SUR	36	0	0	0.9	4.0	4.1
D5NE	ALL	MSLP	SUR	40	0	0	1.5	7.0	7.2
ELPZ3	ALL	MSLP	SUR	26	0	0	1.1	-4.1	4.2
ELQF4	ALL	MSLP	SUR	25	1	4	2.7	-4.4	5.2
ELRE5	ALL	MSLP	SUR	58	0	0	2.0	8.0	8.3
NYCQ	ALL	MSLP	SUR	20	7	35	5.4	-1.0	5.5
OUZW2	ALL	MSLP	SUR	28	0	0	1.5	6.1	6.3
OYMO2	ALL	MSLP	SUR	35	0	0	0.9	-4.7	4.8
TFLE	ALL	MSLP	SUR	24	0	0	1.6	-4.0	4.3
UOVE	ALL	MSLP	SUR	20	0	0	1.8	-7.1	7.3
WAV4647	ALL	MSLP	SUR	31	1	3	6.5	-1.6	6.7
ZTFM	ALL	MSLP	SUR	23	0	0	1.6	-7.0	7.2
3EAY5	ALL	MSLP	SUR	21	0	0	1.2	-5.6	5.7
3EJH6	ALL	MSLP	SUR	20	0	0	1.5	5.6	5.8
3ESE9	ALL	MSLP	SUR	32	0	0	2.3	4.8	5.3
3EWK9	ALL	MSLP	SUR	23	0	0	0.8	4.7	4.8
3FJJ3	ALL	MSLP	SUR	25	0	0	1.6	-5.5	5.7
62105	ALL	MSLP	SUR	24	24	100	0.0	0.0	0.0
WIND SPEED									
CTFB	ALL	SPEED	SUR	26	0	0	4.0	6.0	7.2
ELPB8	ALL	SPEED	SUR	58	7	12	7.5	8.0	10.9
ELQF4	ALL	SPEED	SUR	21	0	0	3.0	7.2	7.8
FNKA	ALL	SPEED	SUR	22	1	5	5.8	7.5	9.4
FNPA	ALL	SPEED	SUR	32	1	3	4.6	8.5	9.7
FNZQ	ALL	SPEED	SUR	31	0	0	4.8	8.4	9.7
HSGX	ALL	SPEED	SUR	26	0	0	4.3	8.5	9.5
MPQM3	ALL	SPEED	SUR	20	0	0	2.0	5.1	5.4
OXRA6	ALL	SPEED	SUR	31	0	0	3.2	5.7	6.6
TCAF	ALL	SPEED	SUR	23	0	0	2.4	6.9	7.3
VJBE	ALL	SPEED	SUR	34	0	0	4.4	5.3	6.9
VPJG	ALL	SPEED	SUR	33	1	3	5.5	8.1	9.8
3ESE9	ALL	SPEED	SUR	23	1	4	4.2	6.7	7.9
5LOU	ALL	SPEED	SUR	26	0	0	2.3	6.3	6.7
9KKL	ALL	SPEED	SUR	33	1	3	7.5	7.4	10.6
9MBE4	ALL	SPEED	SUR	26	0	0	5.9	6.1	8.5
WIND DIRECTION									
GCGJ	ALL	DIRN.	SUR	33	0	0	79.3	36.7	87.3
HPKW	ALL	DIRN.	SUR	24	1	4	51.6	39.7	65.1
VRUK4	ALL	DIRN.	SUR	22	0	0	37.6	30.9	48.6
45002	ALL	DIRN.	SUR	54	0	0	45.7	-39.6	60.5
45006	ALL	DIRN.	SUR	48	0	0	25.3	-35.5	43.7
45008	ALL	DIRN.	SUR	45	0	0	46.0	-32.2	56.2
45139	ALL	DIRN.	SUR	68	0	0	52.1	-45.2	69.0
46146	ALL	DIRN.	SUR	56	0	0	51.7	-32.3	60.9

FIGURE 1

MAIN HOURS ONLY

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 18683

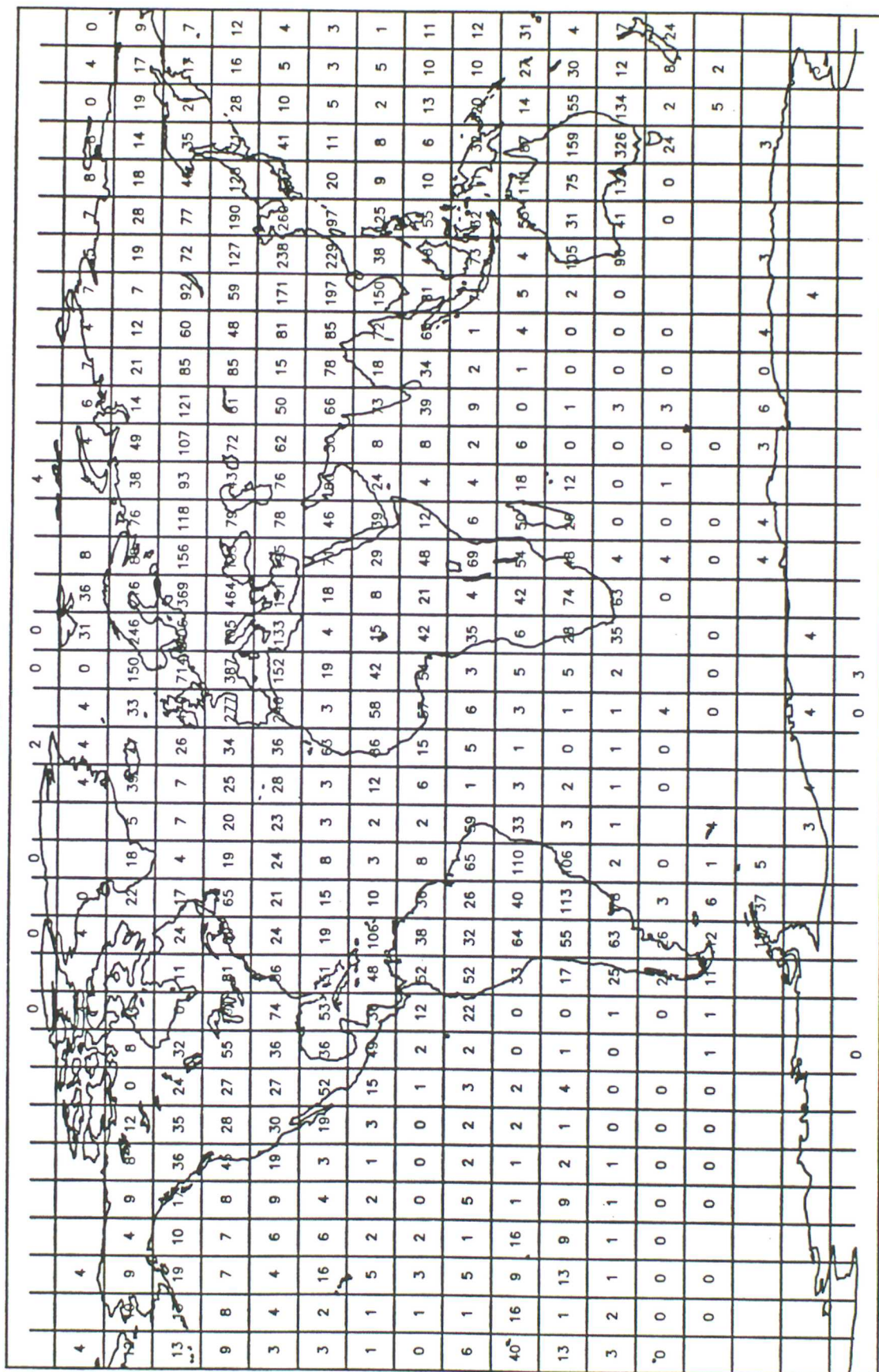


TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: BRACKNELL
MONTH: May, 95

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for drifting buoys.
Standard of comparison	:Background field from Bracknell global model.
Position	:Average latitude and longitude for period.
Observation times	:00, 06, 12, 18 UTC
Elements monitored	:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees).

Parameters monitored

:NOBS	:Number of observations received excluding duplicates.
:NGE	:Number of observations with gross errors.
:PGE	:Percentage of observations with gross errors.
:SD	:SD of difference of observations from background values excluding those with gross errors.
:BIAS	:Mean difference of observations from background values excluding those with gross errors. N.B. a positive bias indicates the observation is veered to the background.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT

:15 hPa	(pressure)
:25 m s^{-1}	(vector wind)

SELECTION CRITERIA

:NOBS	≥ 20	, and one or more of the following:
1. bias	≥ 4 hPa	(pressure),
	≥ 5 m s^{-1}	(wind speed),
	≥ 30 degrees	(direction).
2. SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
3. PGE	≥ 25 .	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed $> 5 \text{ m s}^{-1}$

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
------------	------	-------	------	------	-------	------	-----	-----	----	------	-----

MEAN SEA LEVEL PRESSURE

33532	-36.5	-12.0	ALL	MSLP	SUR	594	15	3	6.1	3.2	6.9
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WIND SPEED

46657	47.0	-148.5	ALL	SPEED	SUR	254	0	0	3.7	-5.3	6.4
55587	-26.6	155.5	ALL	SPEED	SUR	831	0	0	2.5	-5.5	6.0

WIND DIRECTION

44776	59.3	-5.0	ALL	DIRN.	SUR	746	0	0	81.3	-15.7	82.8
46657	47.0	-148.5	ALL	DIRN.	SUR	216	0	0	99.0	-34.8	105.0
55586	-42.8	151.5	ALL	DIRN.	SUR	482	0	0	47.7	-37.0	60.4

FIGURE 2

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 3871

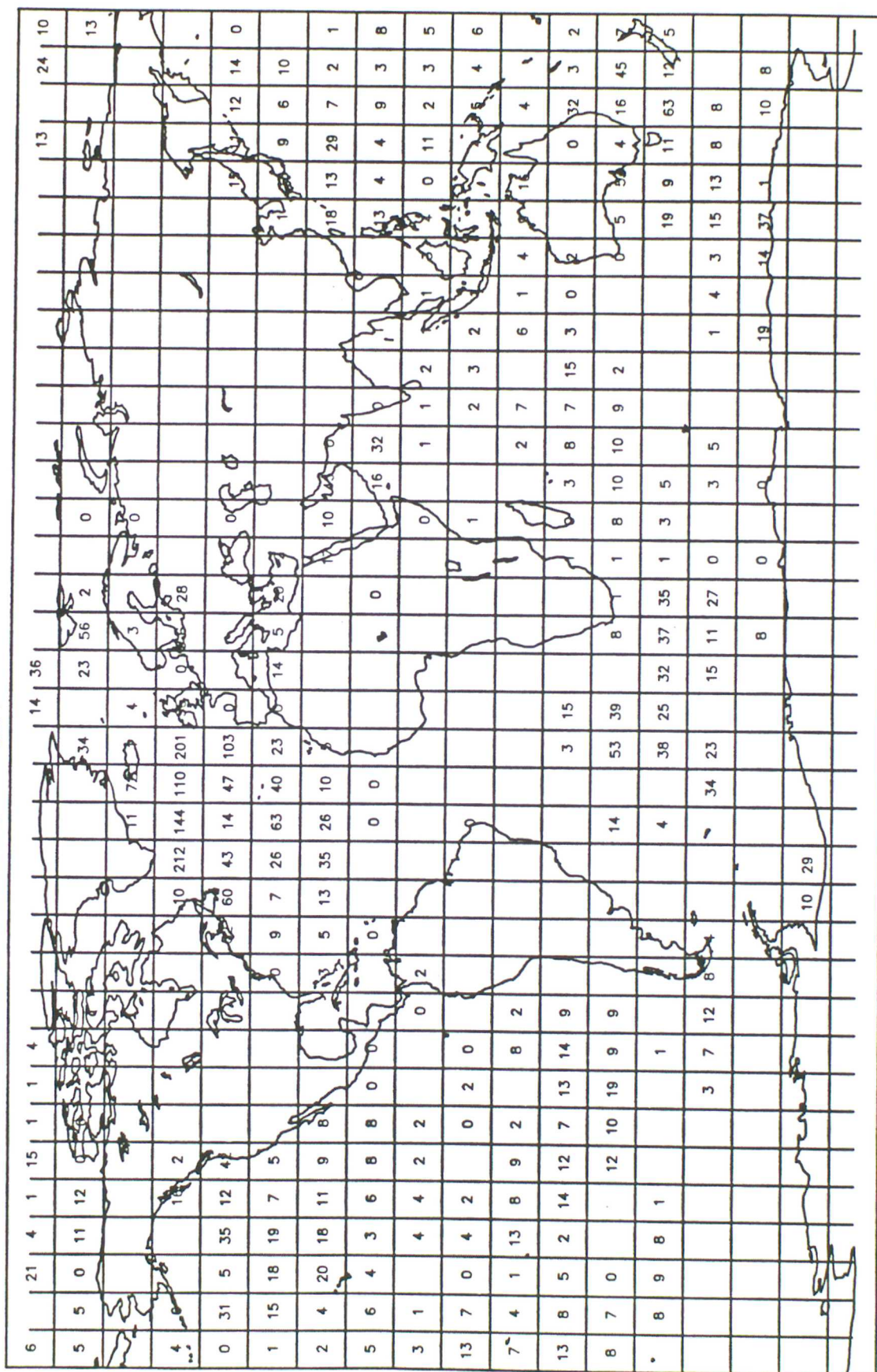


TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: BRACKNELL
MONTH: May, 95

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Mean sea level pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1. bias	≥ 4 hPa
	2. SD	≥ 6 hPa
	3. PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.

For stn ht < 500m, mslp is that as reported by the station where available.

WMO REGION 1:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60445	36.2N	5.4E	1081	S8	95	0	0	86	0.9	4.5	4.6
60468	35.6N	6.2E	1052	S8	94	93	99	34	0.0	14.0	14.0
60511	35.3N	1.4E	1127	S8	95	94	99	100	0.0	13.9	13.9
60571	31.6N	2.2W	773	S8	91	1	1	18	1.0	-4.0	4.1
60670	24.6N	9.5E	1054	S8	94	1	1	97	1.6	9.0	9.1
62762	13.6N	33.6E	418	MS	31	1	3	6	2.7	5.6	6.2
63333	11.1N	39.7E	1916	MS	99	0	0	88	1.1	7.2	7.3
63451	8.7N	39.0E	1876	MS	49	0	0	24	0.9	-4.1	4.2
63453	8.8N	39.8E	1062	S	75	0	0	100	1.3	10.9	11.0
63478	5.1N	44.6E	320	MS	48	0	0	2	3.3	6.7	7.5
68014	19.6S	18.1E	1411	S8	43	0	0	91	1.0	-6.5	6.6
68442	29.1S	26.3E	1354	S8	119	0	0	99	0.9	-5.5	5.6

WMO REGION 2:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
25902	60.8N	151.8E	797	MS	54	4	7	100	0.8	-13.5	13.5
29999	52.5N	99.8E	1570	S8	107	106	99	97	0.0	13.9	13.9
30554	54.5N	113.6E	995	MS	59	0	0	100	1.1	10.3	10.4
36870	43.4N	77.0E	663	MS	60	60	100	100	0.0	0.0	0.0
40701	39.3N	44.4E	1470	MS	61	0	0	98	1.1	6.8	6.9
40743	36.2N	57.7E	941	MS	109	0	0	40	1.2	-5.8	5.9
40762	35.3N	59.2E	1333	MS	104	17	16	100	0.8	-13.7	13.7
40763	35.2N	58.5E	1060	MS	35	1	3	17	1.0	-6.5	6.6
40783	32.4N	49.7E	1972	MS	32	0	0	78	1.5	-6.5	6.7
40789	33.8N	55.1E	921	MS	46	1	2	98	1.2	7.6	7.7
40836	30.8N	51.7E	1880	MS	60	1	2	82	0.9	7.3	7.4
40859	29.0N	53.7E	1383	MS	61	3	5	95	0.8	9.0	9.0
41244	24.2N	55.8E	299	M	119	0	0	0	1.0	7.9	8.0
41254	23.1N	57.7E	1755	S8	73	73	100	100	0.0	0.0	0.0
44277	46.4N	96.3E	2147	MS	76	0	0	20	1.5	-4.5	4.7
44292	47.9N	107.0E	1338	MS	66	0	0	38	1.3	4.8	5.0
44416	28.6N	81.6E	720	MS	84	4	5	19	1.8	4.9	5.2
44477	27.0N	87.4E	1445	S8	74	74	100	100	0.0	0.0	0.0
52602	38.8N	93.4E	2734	S	121	0	0	19	2.1	-5.3	5.7
56287	30.0N	103.0E	629	M	121	0	0	2	1.9	5.1	5.4
56444	28.5N	98.9E	3488	S	114	114	100	100	0.0	0.0	0.0
56462	29.0N	101.5E	2994	S	108	1	1	87	2.8	7.0	7.5
57816	26.5N	106.7E	1222	MS	121	118	98	99	0.3	14.6	14.6

WMO REGION 3:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80434	9.2N	66.0W	125	MS	27	0	0	4	2.0	-5.4	5.8
82704	7.6S	72.7W	170	MS	63	1	2	2	1.7	-4.8	5.1
82825	8.8S	63.1W	95	MS	70	0	0	53	2.5	-5.8	6.3
83208	12.7S	60.1W	652	MS	87	0	0	3	1.4	4.2	4.4
83214	10.3S	54.9W	285	MS	51	0	0	63	3.3	-5.4	6.3
83235	12.3S	46.4W	660	MS	77	2	3	88	1.1	6.0	6.1
83295	13.4S	39.9W	755	MS	34	0	0	88	0.8	-4.9	5.0
83319	14.7S	52.4W	315	MS	67	1	1	6	1.2	-4.4	4.6
83332	14.1S	46.4W	950	MS	79	8	10	100	0.7	13.6	13.6
83408	14.3S	43.8W	556	MS	41	1	2	98	1.2	11.0	11.1
83423	16.7S	49.3W	729	MS	86	0	0	71	1.5	-5.5	5.7
83488	17.8S	42.9W	1097	MS	79	78	99	100	0.0	10.9	10.9
83512	18.5S	54.8W	286	MS	79	1	1	35	2.8	-10.4	10.8
83531	18.6S	46.5W	896	MS	70	1	1	76	0.9	-7.2	7.3
83586	19.5S	44.3W	732	MS	83	0	0	4	1.4	-4.1	4.3

WMO REGION 3:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
83587	19.8S	43.9W	850	MS	85	0	0	91	2.6	-8.1	8.5
83689	21.3S	43.8W	1171	MS	61	0	0	87	1.0	4.1	4.2
83704	22.3S	53.9W	369	MS	70	2	3	34	2.3	-9.4	9.7
83781	23.5S	46.6W	792	MS	90	0	0	97	1.1	-5.9	6.0
84425	5.9S	76.1W	184	MS	84	0	0	4	2.4	4.7	5.3
84455	6.5S	76.4W	282	MS	86	1	1	3	1.8	5.3	5.6
84472	7.1S	78.5W	2622	S	38	3	8	89	2.0	-7.3	7.6
84531	9.2S	78.5W	21	MS	60	1	2	2	1.0	4.9	5.0
84658	12.6S	69.2W	266	MS	120	0	0	23	2.8	5.8	6.4
84686	13.6S	72.0W	3249	S	119	0	0	26	1.9	-7.0	7.3
84782	18.1S	70.3W	469	MS	117	0	0	3	1.3	5.1	5.3
85223	17.4S	66.2W	2548	S7	121	0	0	15	2.1	-4.7	5.1
85264	18.5S	64.1W	1998	S	51	0	0	45	2.3	-5.9	6.3
85312	19.8S	63.9W	992	S	46	1	2	100	1.6	-11.4	11.5
85406	18.3S	70.3W	58	M	119	0	0	4	1.2	4.9	5.0

WMO REGION 4:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
76118	30.4N	109.7W	1040	MS	42	3	7	93	1.2	-11.1	11.2
76160	29.1N	111.0W	211	MS	43	0	0	5	1.5	-4.5	4.7
76373	25.3N	105.8W	1967	MS	75	57	76	99	1.7	14.0	14.1
76539	22.1N	101.0W	1871	MS	95	1	1	83	1.2	-5.5	5.6
76632	20.1N	98.7W	2417	MS	56	0	0	95	2.9	-7.0	7.6
76658	19.3N	103.6W	723	MS	25	25	100	8	0.0	0.0	0.0
76726	18.9N	99.3W	1560	MS	83	0	0	99	1.8	-8.3	8.5
76762	17.5N	99.5W	1360	MS	68	1	1	99	1.0	11.2	11.2
76840	16.2N	93.9W	64	MS	51	0	0	2	1.6	4.3	4.6
76848	16.3N	92.1W	1530	MS	100	10	10	98	0.8	-13.5	13.5

WMO REGION 5:

NO SUSPECTS IN THIS REGION

WMO REGION 6:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01245	62.6N	9.7E	630	MS	90	0	0	100	0.9	-5.7	5.8
08221	40.5N	3.6W	633	MS	114	0	0	95	1.2	5.7	5.8
08232	40.9N	1.9W	1063	S8	58	0	0	98	1.0	5.8	5.9
10736	49.0N	8.9E	245	MS	23	7	30	0	1.2	0.1	1.2
11346	47.3N	12.8E	917	S	87	0	0	72	1.5	-4.9	5.1
15052	47.4N	25.6E	1541	S8	118	2	2	80	1.5	-4.7	4.9
16020	46.5N	11.3E	1461	MS	75	75	100	0	0.0	0.0	0.0
16614	40.4N	21.3E	604	MS	116	0	0	99	1.2	-7.4	7.5
17084	40.6N	35.0E	837	MS	119	0	0	97	1.3	6.8	6.9
17190	38.8N	30.5E	1034	S8	119	0	0	71	1.1	4.1	4.2
17260	37.1N	37.4E	855	MS	119	119	100	100	0.0	0.0	0.0
37228	43.1N	44.6E	670	MS	59	0	0	66	1.6	-4.4	4.7
40184	31.8N	35.2E	809	S8	122	0	0	95	1.2	5.5	5.6

ANTARTIC:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89009	90.0S	0.0	2800	S	84	8	10	19	4.6	-4.2	6.2
89208	90.0S	0.0W	2835	S7	53	53	100	36	0.0	0.0	0.0
89262	67.0S	60.6W	17	MS	23	0	0	35	3.6	-6.7	7.6

ANTARTIC:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89264	71.4S	68.9W	780	S8	52	1	2	25	5.1	4.9	7.1
89324	80.0S	120.0W	1530	S8	54	3	6	26	4.7	-5.5	7.2
89757	73.8S	55.7E	2775	S7	70	70	100	50	0.0	0.0	0.0
89803	68.5S	102.2E	2118	S7	81	4	5	62	2.5	-9.9	10.2
89811	66.7S	112.9E	1362	S8	81	8	10	75	2.7	-9.1	9.5
89828	74.5S	123.0E	3280	S	54	13	24	50	5.7	5.4	7.9
89832	66.7S	139.8E	240	S	27	27	100	100	0.0	0.0	0.0
89847	67.6S	146.0E	30	MS	53	1	2	0	3.3	-7.0	7.7
89860	74.2S	160.3E	1772	S8	50	0	0	12	3.0	-6.9	7.5
89861	74.5S	160.5E	1525	S8	47	1	2	28	2.7	-9.2	9.6

TABLE 4

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

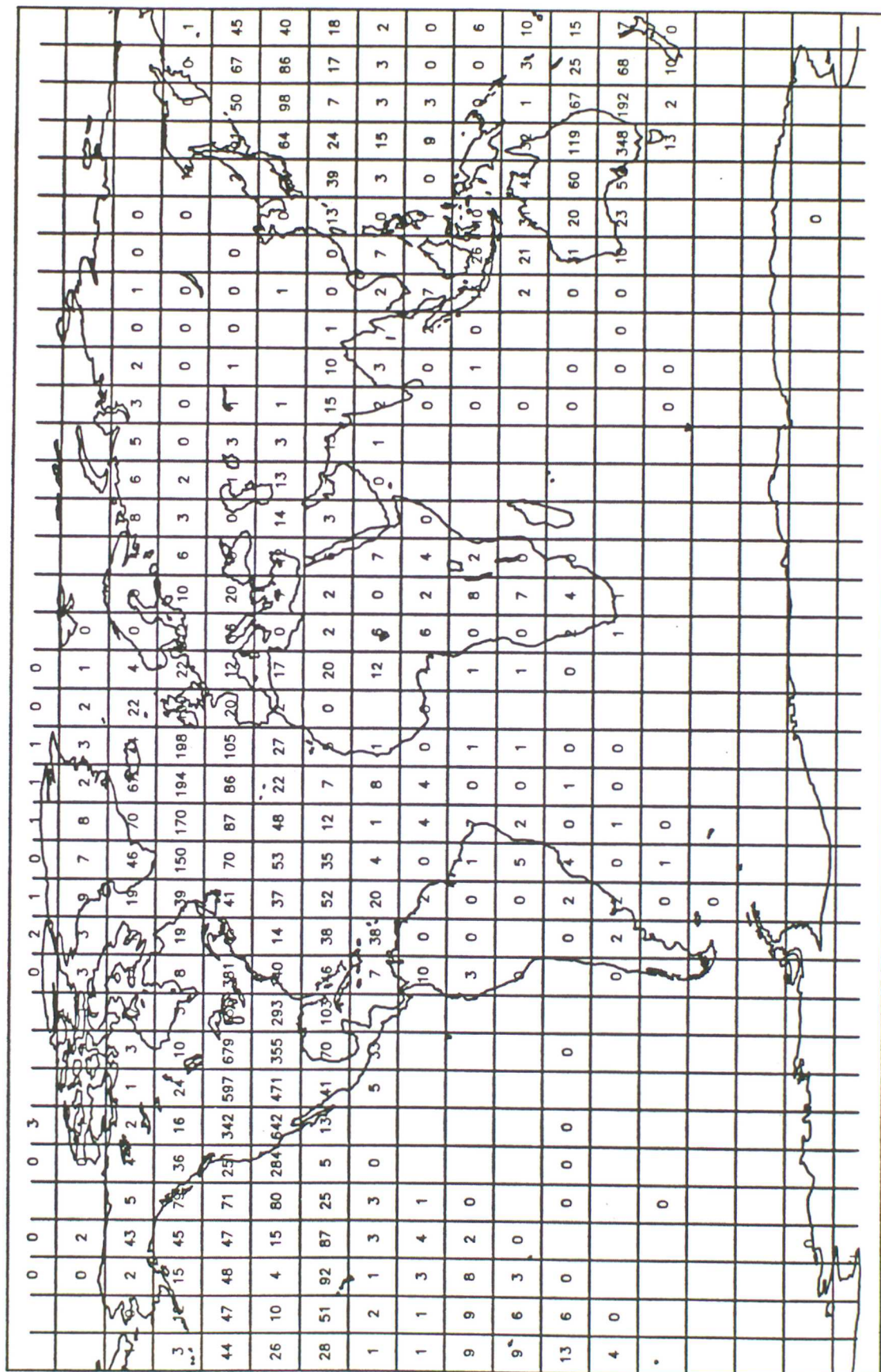
Period	:One calendar month.
Data monitored	:Statistics for each airline carrier.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from Bracknell global model.
Observation times	:All hours combined.
Level(s) monitored	:70.0 - 500.0 hPa
Elements monitored	:TEMP in °C ; WIND in m s ⁻¹
Parameters monitored	
:N REP.	:Number of observations received excluding duplicates.
:PG	:Percentage of observations with gross errors.
:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
:PC	:Percentage of observations with calm winds.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.
GROSS ERROR LIMITS	:10.0 °C ; 60 m s ⁻¹ Vector Wind
SELECTION CRITERIA	:N REP ≥ 20

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				BIAS
		PG	PR	RMS	BIAS		PG	PR	PC	RMS	
AAA	68	1	47	2.1	0.8	68	0	4	0	12.1	1.9
AAL	4745	0	1	1.7	0.1	4757	0	1	0	7.4	1.3
AAN	107	2	2	2.0	-0.5	101	0	1	0	7.5	0.1
AAR	2092	1	1	1.6	-0.2	2086	0	2	0	8.3	1.2
ACA	913	0	1	1.7	0.0	918	0	1	0	6.3	0.7
ACI	29	3	3	1.3	1.0	28	0	0	0	6.4	1.4
AEA	97	5	100	3.4	1.1	97	0	6	0	8.4	-0.3
AEL	409	2	2	1.5	-0.1	417	0	2	0	8.6	1.1
AFL	241	0	100	2.7	1.2	241	0	53	0	7.6	1.4
AFR	1284	1	4	1.7	-0.1	1299	0	5	0	7.3	1.2
AHR	30	0	0	1.5	0.2	30	0	3	0	8.0	1.7
AIC	32	0	3	2.9	1.7	35	0	14	0	13.6	2.6
AIH	179	0	2	1.7	0.1	180	0	2	0	7.5	0.7
AJJ	104	1	4	2.7	-0.3	104	0	1	0	12.3	2.1
AMT	310	1	1	1.7	0.4	321	0	1	0	7.5	1.2
AMX	193	1	1	1.6	0.0	198	0	4	0	9.4	0.6
ANA	823	0	1	1.8	-0.6	821	0	2	1	8.7	1.3
ANZ	3275	1	3	1.9	-0.1	3244	0	2	0	8.4	1.4
AOM	543	1	1	1.5	0.7	554	0	2	0	7.9	0.7
ARG	27	0	0	0.9	0.5	27	0	0	0	7.8	-1.4
ARP	140	1	5	2.2	0.3	131	0	7	1	8.3	1.1
ASY	34	6	6	1.4	0.2	34	0	0	0	6.8	1.8
ATN	153	0	5	2.2	-1.4	152	0	7	0	12.9	0.3
AUA	80	0	1	2.1	-1.2	81	0	1	0	7.4	2.6
AVA	353	2	3	1.7	0.0	361	0	4	0	8.5	0.7
AVN	38	0	0	1.0	-0.2	38	0	0	0	7.3	-0.2
AZA	446	0	2	1.8	0.5	448	0	4	0	7.5	0.7
BAL	412	1	13	1.8	-0.1	419	0	15	0	7.9	0.5
BAW	1551	0	2	1.9	0.2	1559	0	3	1	6.9	1.1
BBB	73	0	11	1.3	-0.8	72	0	11	0	8.0	2.0
BWA	424	1	3	1.6	0.9	428	0	3	1	7.5	0.5
CAL	1865	1	1	1.7	-0.1	1874	0	3	0	8.8	1.0
CCA	88	2	7	2.4	0.7	89	0	96	0	11.0	1.4
CDN	2322	0	1	2.0	0.5	2318	0	2	0	8.3	1.3
CES	145	0	3	1.6	0.3	148	1	3	0	10.3	0.3
CFC	37	0	16	1.4	-0.6	37	0	19	0	9.4	1.3
CFG	967	1	2	1.9	-1.1	984	0	2	0	7.7	0.7
CKS	55	2	5	2.2	0.8	56	0	4	0	9.1	1.7
CKT	134	1	1	1.7	0.4	135	0	1	0	7.1	-0.1
CLI	186	0	1	2.0	-0.8	188	0	2	0	7.1	1.7
CLX	87	0	2	2.1	-0.9	87	0	3	2	5.9	0.9
CMI	1003	0	1	1.8	0.3	1011	0	4	1	8.6	1.2
CMM	238	0	100	1.6	0.3	238	0	10	0	7.5	1.5
COA	700	1	2	1.8	0.6	715	0	3	1	8.0	1.2
CPA	50	6	4	2.1	-0.5	52	0	0	0	10.9	1.6
CRL	179	1	3	1.6	0.1	182	1	3	1	6.6	0.5
CTM	59	5	8	2.2	-0.5	62	0	11	0	6.9	1.4
CUB	163	1	7	2.4	1.4	166	0	100	0	11.6	2.1
DAF	36	0	3	2.3	-0.7	36	0	0	0	6.6	-0.4
DAL	6135	0	2	2.1	0.5	5935	0	2	0	8.1	1.0
DHL	488	2	100	3.6	-1.3	480	0	4	0	7.9	1.2
DLH	3738	0	11	2.0	0.3	3709	0	15	4	7.2	0.9
DOA	143	0	12	1.9	-0.6	139	0	11	0	8.3	0.9
ELY	141	0	9	1.7	0.2	140	0	9	0	6.2	1.3
EVA	1628	0	1	1.9	-0.6	1634	0	2	0	9.6	1.2
EWV	39	3	5	3.1	-0.4	38	0	8	0	12.2	2.8
FDX	968	0	2	1.9	0.5	977	0	3	1	8.0	0.8
FIN	412	0	1	1.7	0.2	411	0	2	1	6.3	1.6
FJI	626	1	3	1.7	0.6	622	0	1	0	8.3	0.8

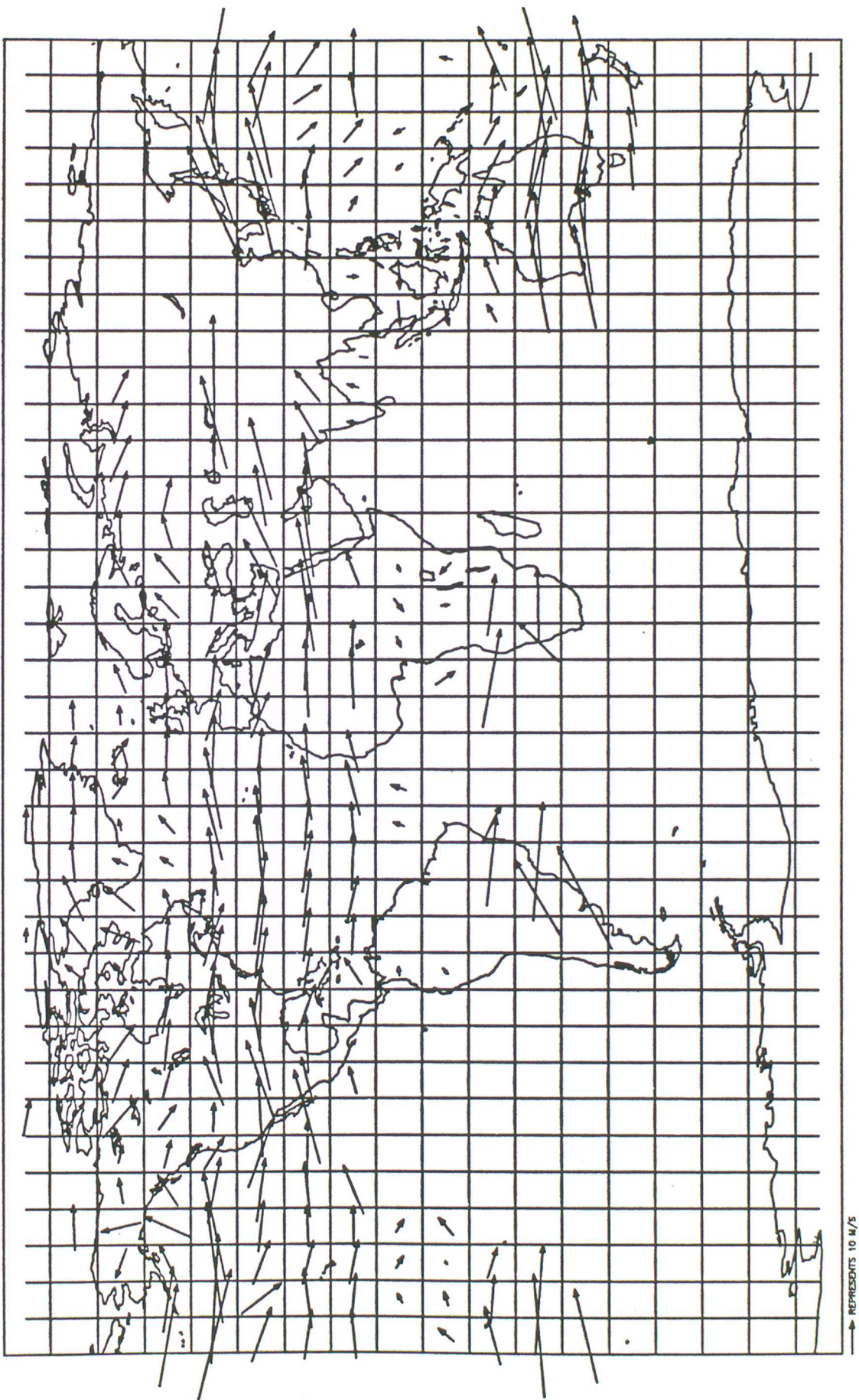
IDENT.	N.REP.	TEMPERATURE				BIAS	N.REP.	PG	WIND			BIAS
		PG	PR	RMS	PR				PC	RMS		
FKO	21	0	5	2.6	0.0		21	0	0	0	9.4	2.3
GAF	201	0	0	1.7	0.2		196	0	4	3	5.3	1.1
GIA	295	2	3	2.0	0.4		296	0	1	0	8.8	0.9
HAL	1328	0	0	1.3	0.4		1335	0	3	0	8.6	1.3
HLF	181	1	3	1.8	-1.1		181	0	3	0	7.7	0.4
HRH	52	0	2	1.6	0.3		51	0	0	0	8.7	0.0
IBE	2502	1	18	1.9	0.5		2494	0	19	0	8.9	0.6
ICE	458	0	1	1.8	-0.4		449	0	3	2	6.9	1.2
JAA	40	5	5	1.4	0.2		40	0	0	0	8.5	2.6
JAL	6040	0	1	1.8	0.2		6044	0	2	0	8.6	1.1
JAZ	68	1	1	1.6	1.1		68	0	1	0	7.7	1.1
KAL	3529	1	1	1.9	0.1		3524	0	2	0	9.1	1.1
KIW	53	2	6	3.3	2.8		52	0	4	0	6.8	0.3
KLM	2372	0	1	1.7	0.2		2376	0	3	1	7.0	1.0
LDA	164	0	7	1.8	-1.0		165	1	8	0	8.1	0.9
LDI	168	1	2	1.9	-1.1		168	0	2	0	8.2	0.6
LIB	410	1	2	1.6	0.6		410	0	5	1	8.0	0.3
LOT	338	1	1	1.8	-0.6		335	0	1	0	6.7	0.7
LTU	795	0	1	1.7	0.2		781	0	3	0	7.9	0.9
MAS	257	2	2	1.8	-0.4		259	0	5	0	10.0	1.2
MDA	114	2	2	2.3	1.3		115	1	1	0	8.3	2.0
MKD	39	0	0	1.4	-0.6		40	0	0	0	7.7	0.9
MPH	657	0	1	1.8	-0.5		651	0	2	0	7.7	1.3
MRS	46	7	28	4.6	-3.8		46	0	17	0	15.8	5.6
NCA	648	0	1	1.9	0.5		650	0	3	1	8.4	1.0
NGA	113	2	9	1.7	0.1		114	1	100	0	14.4	-0.2
NWA	9680	1	3	2.2	0.8		9720	0	2	1	8.1	1.0
OAL	55	2	0	2.3	1.1		56	0	2	0	7.9	0.2
PAC	55	2	9	3.0	0.4		56	0	4	0	7.6	1.4
PAL	1088	0	1	1.8	-0.4		1092	0	3	1	8.6	1.1
PAO	213	0	3	2.0	0.0		214	0	2	0	8.8	1.4
QFA	1811	2	3	1.7	0.1		1801	0	2	1	7.8	1.0
RAF	190	1	1	2.1	0.2		189	0	3	0	10.4	1.3
RIA	74	1	15	4.0	2.8		74	0	4	0	10.7	1.6
RON	44	0	0	0.8	0.1		44	0	2	2	7.0	0.5
RRR	186	0	21	2.2	0.0		190	0	22	0	9.0	1.0
SAA	199	2	2	1.7	-0.7		198	0	1	0	7.4	2.0
SAB	69	0	3	1.9	0.4		71	0	3	0	5.7	0.7
SAS	1650	0	0	1.7	-0.3		1630	0	2	1	6.2	0.8
SIA	1326	1	1	1.8	-0.6		1330	0	2	0	9.3	1.0
SJM	33	6	3	1.7	0.0		33	0	0	0	6.0	1.0
SOL	41	2	2	0.8	0.0		37	0	0	0	6.2	1.3
SPP	328	0	9	1.7	-0.2		330	0	11	0	7.9	-0.1
SVA	100	1	3	1.9	0.5		105	0	6	2	7.7	-0.2
SVV	31	6	3	3.6	1.7		32	0	22	0	16.0	3.8
SWR	231	0	5	1.9	-0.1		235	0	3	0	8.5	1.8
TAP	556	1	6	2.1	0.3		559	0	6	0	9.0	0.7
TEJ	37	0	16	1.5	0.0		38	0	21	0	9.8	1.5
THA	300	1	2	1.9	-0.7		302	0	3	0	9.4	1.0
TIH	20	0	40	0.9	0.1		21	0	38	0	4.7	-0.7
TOW	82	0	0	2.0	0.3		84	0	1	0	8.4	0.8
TSC	100	0	7	2.7	0.0		101	0	14	1	9.9	2.5
TWA	1199	1	2	1.8	-0.1		1198	0	3	1	8.1	1.2
UAL	82908	1	2	1.5	0.2		82943	0	2	0	7.4	0.9
ULE	212	0	3	1.5	0.0		216	0	4	0	7.9	0.9
UPS	853	1	9	1.6	-0.3		860	0	9	0	8.4	1.4
USA	149	1	3	1.8	-0.1		151	0	3	0	6.2	1.0
VIA	548	1	3	1.7	0.6		551	0	2	0	6.2	0.5
VIR	222	0	0	1.8	-0.2		231	0	2	0	7.9	1.9

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC			
VRB	22	0	0	2.7	1.0	21	0	0	0	5.6	0.2	
VRG	29	0	3	2.6	0.0	32	0	3	0	14.2	3.4	
VSP	87	1	1	1.9	0.2	88	0	1	0	9.4	0.8	
WOA	48	0	2	1.7	0.2	47	0	2	0	7.2	0.7	
AN	22685	0	1	1.4	0.1	22500	0	1	0	6.9	1.0	
BA	16808	0	22	1.6	0.5	16780	0	22	0	6.9	1.4	
DL	1046	0	100	2.7	0.9	1046	36	100	0	38.4	-1.7	
FJ	34	3	9	1.7	0.4	34	0	9	0	8.9	1.4	
KL	13755	0	28	2.1	1.5	13744	0	11	0	6.1	1.1	
LH	3553	0	4	1.7	0.0	3515	0	4	1	6.8	1.3	
NW	51366	0	2	1.6	0.2	51366	0	1	0	6.8	1.1	
QF	9046	0	2	1.2	0.2	9038	0	2	0	6.5	0.8	
M	237	3	98	3.6	1.8	247	0	98	0	10.9	1.9	
N	443	1	2	2.6	0.6	459	0	5	1	8.8	1.2	

MEAN DAILY COUNT OF AIRCRAFT 70 - 500 HPA
MAY 1995
OBSERVATIONS WITH O-B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED



AIRCRAFT MEAN WINDS BETWEEN 70 AND 500 HPA
MAY 1995
OBSERVATIONS WITH O-B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

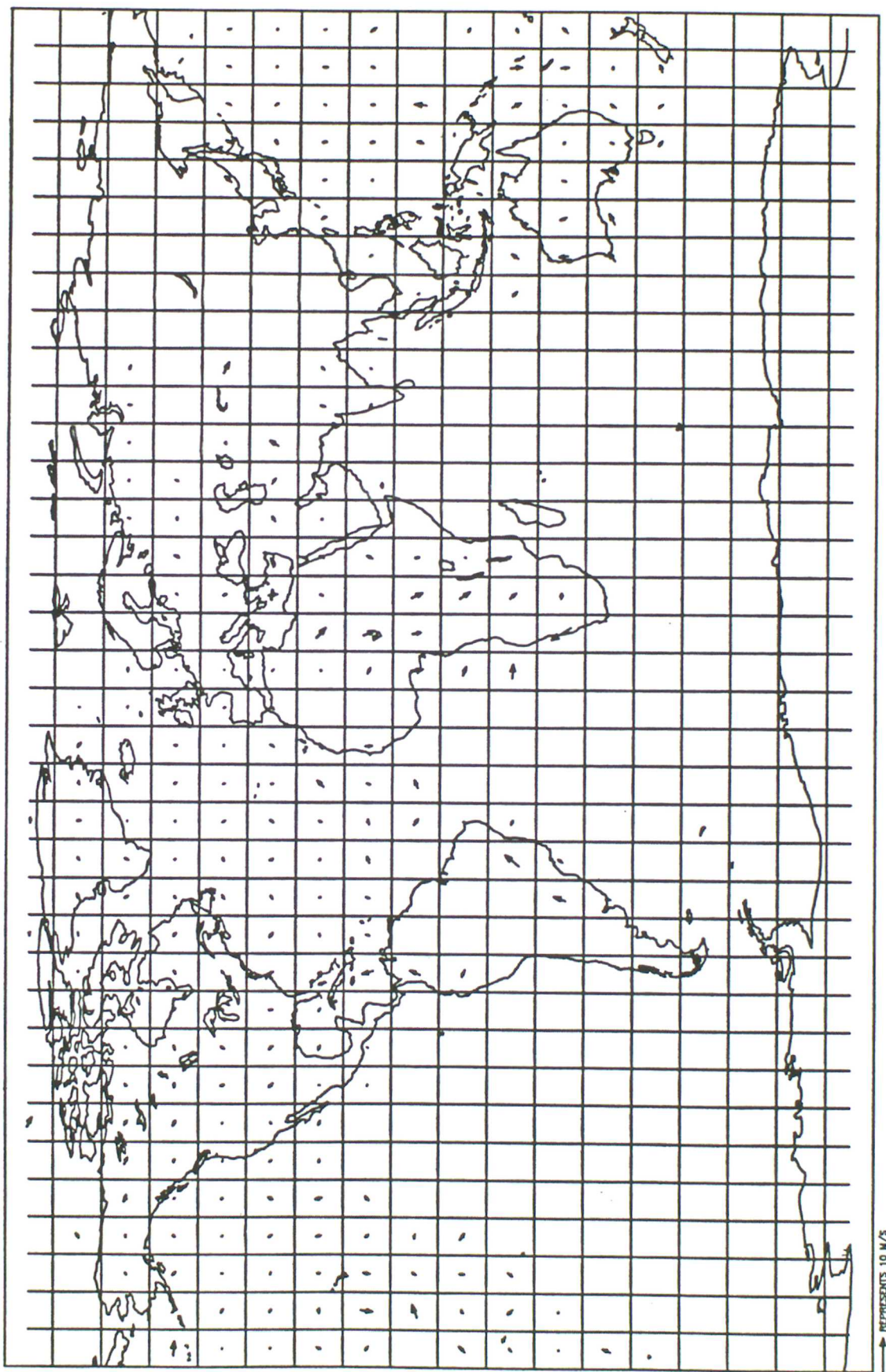


AIRCRAFT MEAN O-B WINDS BETWEEN 70 AND 500 HPA

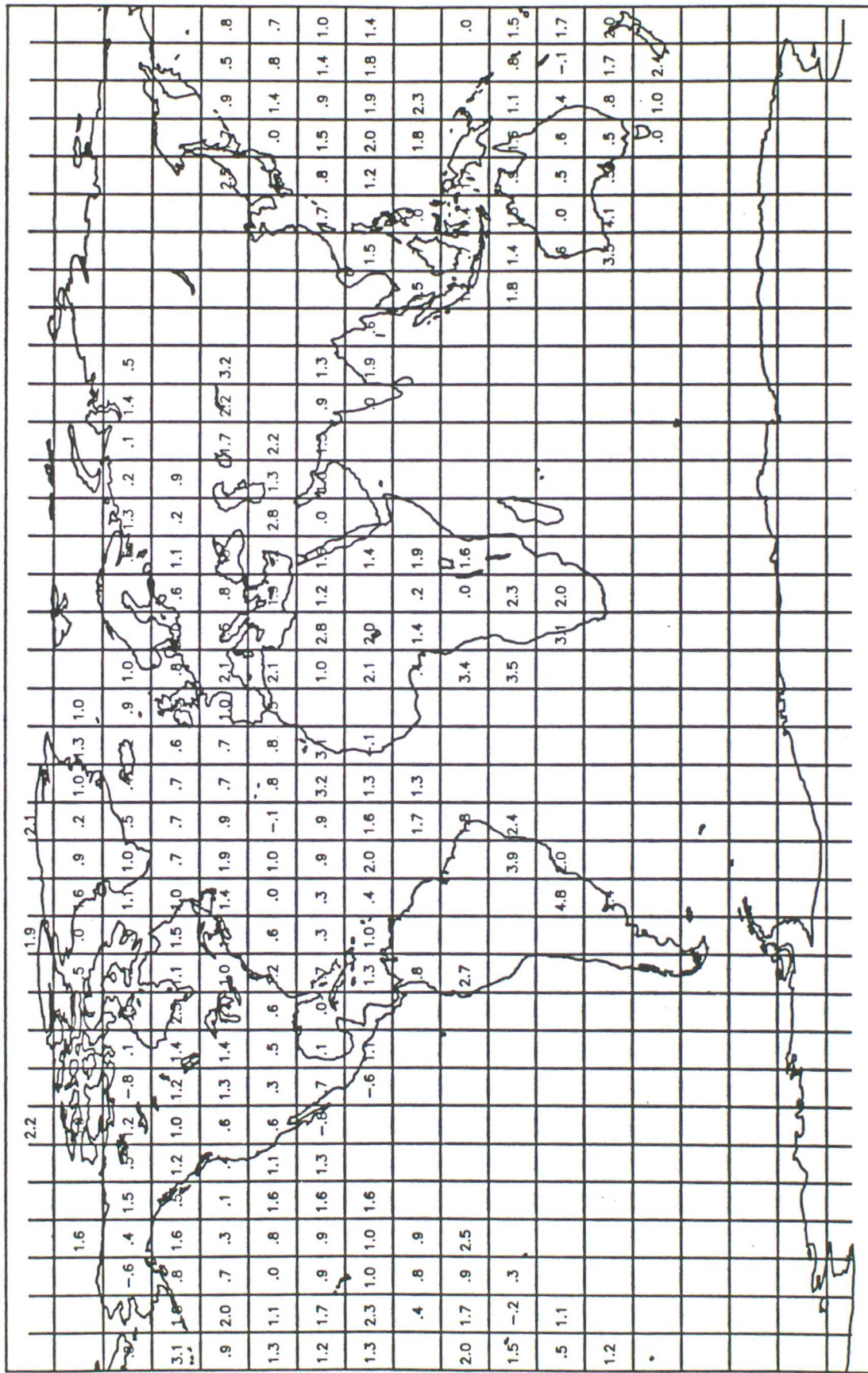
MAY 1995

OBSERVATIONS WITH O-B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 5



OBSERVATIONS WITH O-B VECTOR DIFFERENCE > 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT



AIRCRAFT : RMS O-B VECTOR (M/S) BETWEEN 70 AND 500 HPA

MAY 1995

FIGURE 7

OBSERVATIONS WITH O-B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT

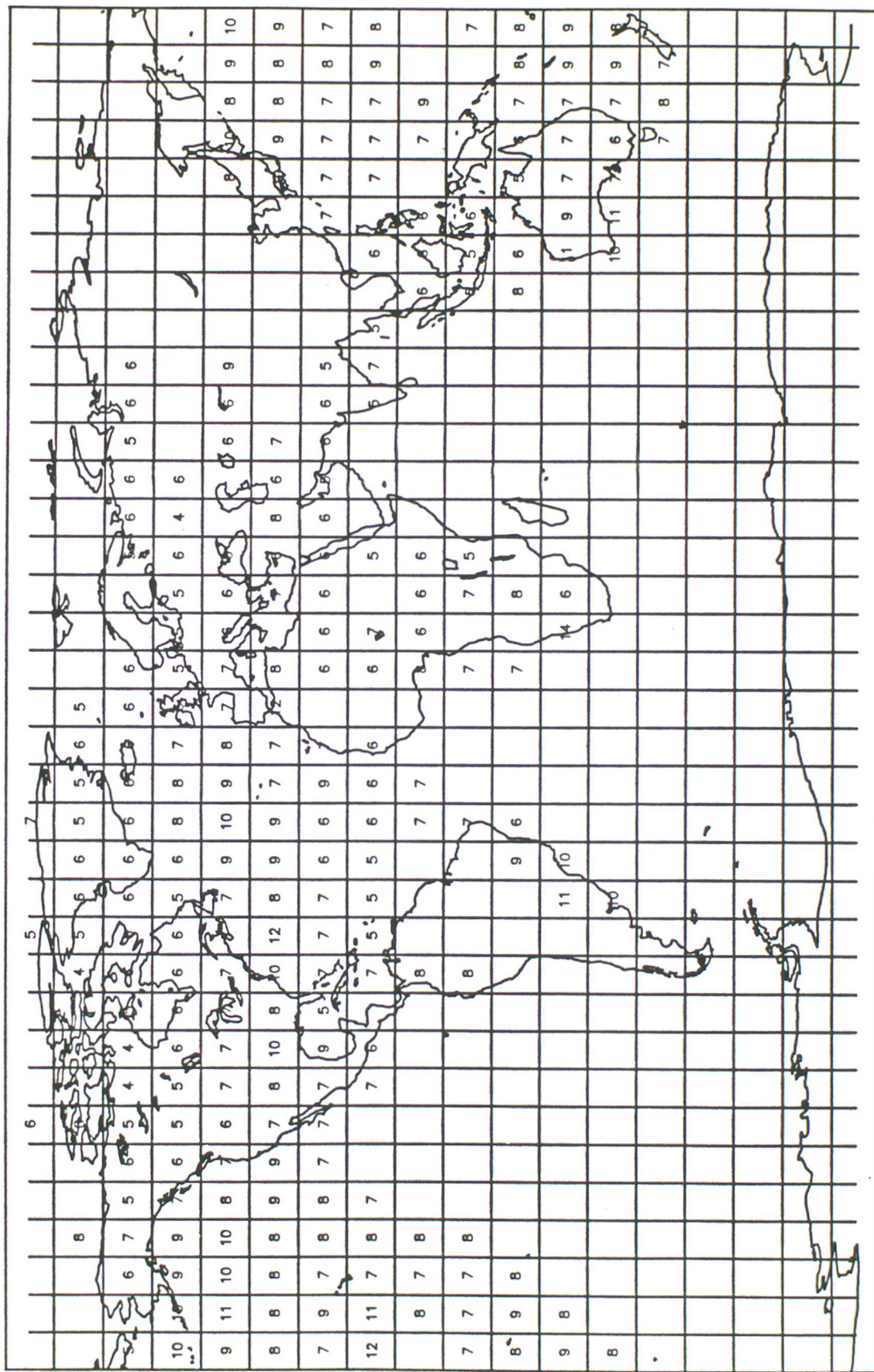


TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for radiosonde TEMPs.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from Bracknell global model.
Observation times	:00 UTC and 12 UTC.
Level(s) monitored	:Standard levels between 1000.0 - 30.0 hPa
Element monitored	:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	
:NUM OBS	:Number of observations available at level shown during period.
:NUM GROSS	:Number of gross errors at level shown during period.
:% REJ	:Percentage of observations rejected by quality control at level shown during period.
:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1
SELECTION CRITERIA	: ≥ 3 levels with ≥ 10 observations and ≥ 100 m weighted RMS.
ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS	

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG		NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
37018	12	Z	70	44/	39	12	0	32.7	139.8	143.6	8
42027	12	Z	100	34/	75	16	1	124.3	62.2	139.0	7
42314	00	Z	150	27/	95	10	0	166.9	-56.9	176.4	6
42314	12	Z	200	27/	95	12	0	60.9	-97.8	115.2	4
42339	12	Z	300	26/	73	11	0	78.2	-8.2	78.7	4
42361	00	Z	150	26/	78	15	0	129.2	-27.5	132.1	9
42369	12	Z	70	27/	81	9	1	190.2	87.2	209.2	7
42379	00	Z	30	27/	83	15	2	155.9	263.9	306.5	9
42379	12	Z	30	27/	83	8	2	104.2	285.5	303.9	10
42397	00	Z	150	27/	88	10	0	68.8	-164.9	178.7	6
42397	12	Z	200	27/	88	14	0	87.1	-85.8	122.3	5
42410	00	Z	30	26/	92	11	3	106.6	228.0	251.7	7
42492	00	Z	50	26/	85	15	1	87.6	135.3	161.1	4
42647	12	Z	50	23/	73	16	1	109.7	197.8	226.2	8
42724	00	Z	30	24/	91	12	1	117.3	230.6	258.7	9
42875	12	Z	200	21/	82	12	0	107.4	20.3	109.3	4
42971	00	Z	30	20/	86	9	2	130.0	241.2	274.0	8
42971	12	Z	150	20/	86	21	0	128.7	1.5	128.7	8
43014	12	Z	200	20/	75	20	0	92.9	8.7	93.3	6
43128	00	Z	30	17/	78	17	0	145.7	213.9	258.8	4
43128	12	Z	30	17/	78	9	2	119.7	255.7	282.3	9
43150	00	Z	250	18/	83	25	1	84.3	-63.4	105.5	7
43150	12	Z	300	18/	83	24	1	78.5	-44.9	90.4	7
43185	12	Z	250	16/	81	12	0	87.6	36.7	95.0	4
43279	00	Z	100	13/	80	26	0	76.4	-76.3	108.0	4
43279	12	Z	50	13/	80	11	0	150.5	-6.6	150.7	5
43295	00	Z	30	13/	78	10	0	64.8	297.7	304.7	5
43311	12	Z	200	11/	73	12	0	115.0	18.6	116.4	4
43333	12	Z	150	12/	93	11	2	138.2	-21.8	139.9	5
43346	00	Z	50	11/	80	21	0	174.0	14.4	174.6	5
43346	12	Z	30	11/	80	18	1	166.7	87.2	188.1	4
43369	00	Z	50	8/	73	14	0	169.4	-31.6	172.3	5
43371	00	Z	100	8/	77	10	1	71.8	-106.5	128.4	4
44373	12	Z	200	44/	104	9	1	65.3	165.3	177.8	4
52203	12	Z	70	43/	94	29	0	56.5	120.3	132.9	4
52267	12	Z	70	42/	101	28	0	27.5	130.5	133.4	4
53845	12	Z	200	37/	109	28	0	30.1	74.0	79.9	4
54337	12	Z	250	41/	121	22	0	55.9	45.7	72.2	5
54342	00	Z	150	42/	123	25	0	48.1	80.2	93.5	5
54374	00	Z	30	42/	127	17	0	61.5	163.6	174.8	7
54497	00	Z	70	40/	124	24	0	62.2	143.0	156.0	7
54497	12	Z	100	40/	124	24	0	41.7	102.0	110.2	5
54823	00	Z	200	37/	117	31	0	43.6	75.7	87.3	5
55299	12	Z	70	31/	92	22	0	45.9	140.5	147.8	4
55591	12	Z	70	30/	91	21	0	48.5	129.0	137.9	4
56080	12	Z	30	35/	103	25	0	59.1	184.7	194.0	6
56146	12	Z	30	32/	100	16	0	76.3	166.3	183.0	4
56691	12	Z	100	27/	104	25	0	34.1	126.5	131.0	6
56739	12	Z	100	25/	98	28	0	42.2	119.0	126.3	5
57036	12	Z	200	34/	109	29	0	33.9	72.9	80.4	5
57679	00	Z	100	28/	113	28	0	40.3	137.2	143.0	6
57679	12	Z	100	28/	113	23	0	84.9	107.7	137.1	5
57749	00	Z	100	28/	110	29	0	37.8	115.1	121.2	5
57749	12	Z	70	28/	110	24	0	41.2	122.4	129.1	4
57957	00	Z	100	25/	110	29	0	41.1	130.8	137.1	4
57957	12	Z	70	25/	110	24	0	47.8	161.9	168.8	6
58027	00	Z	100	34/	117	30	0	38.3	115.4	121.6	6
58027	12	Z	100	34/	117	22	0	36.8	112.8	118.7	6
58150	00	Z	100	34/	120	31	0	37.3	114.8	120.7	5
58150	12	Z	200	34/	120	27	0	33.6	79.1	86.0	4

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
58238	00	Z	200	32/ 119	29	0	32.4	83.2	89.3	4
58424	00	Z	100	31/ 117	30	0	36.6	110.1	116.0	5
58424	12	Z	150	31/ 117	27	0	31.3	88.0	93.4	4
58606	00	Z	100	29/ 116	28	0	46.1	104.1	113.8	4
58665	00	Z	100	29/ 121	31	0	31.0	135.1	138.6	7
58665	12	Z	100	29/ 121	27	0	31.8	118.9	123.1	5
60490	12	Z	150	36/ -1	1	10	0.0	-242.0	242.0	5
62306	12	Z	50	31/ 27	18	4	47.2	322.0	325.4	9
62378	12	Z	70	30/ 31	9	2	83.9	205.3	221.8	5
63450	12	Z	700	9/ 39	21	0	12.9	57.4	58.8	7
71203	00	Z	1000	50/ -12	21	7	62.1	-24.1	66.6	9
71203	12	Z	1000	50/ -12	20	8	44.7	-27.1	52.3	9
74455	00	Z	250	48/ -91	21	7	63.9	121.0	136.8	9
74455	12	Z	250	48/ -91	18	7	86.6	103.6	135.1	9
82332	12	Z	30	-3/ -60	14	0	46.3	200.9	206.1	6
89002	12	Z	850	-71/ -8	28	0	34.6	1.6	34.6	4
89009	00	Z	400	-90/ 0	18	1	73.1	-45.8	86.3	5
89050	00	Z	250	-62/ -59	19	9	77.4	99.1	125.7	10
89664	00	Z	850	-78/ 167	20	0	20.2	-30.6	36.7	5
96163	00	Z	100	-1/ 100	13	2	150.4	56.6	160.7	8
96237	00	Z	100	-2/ 106	18	2	140.2	99.1	171.7	8

FIGURE 8

AVAILABILITY -- TEMP -- 500 HPA GEOPOTENTIAL -- MAY 1995
ALL HOURS
10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS
TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS -- 1396

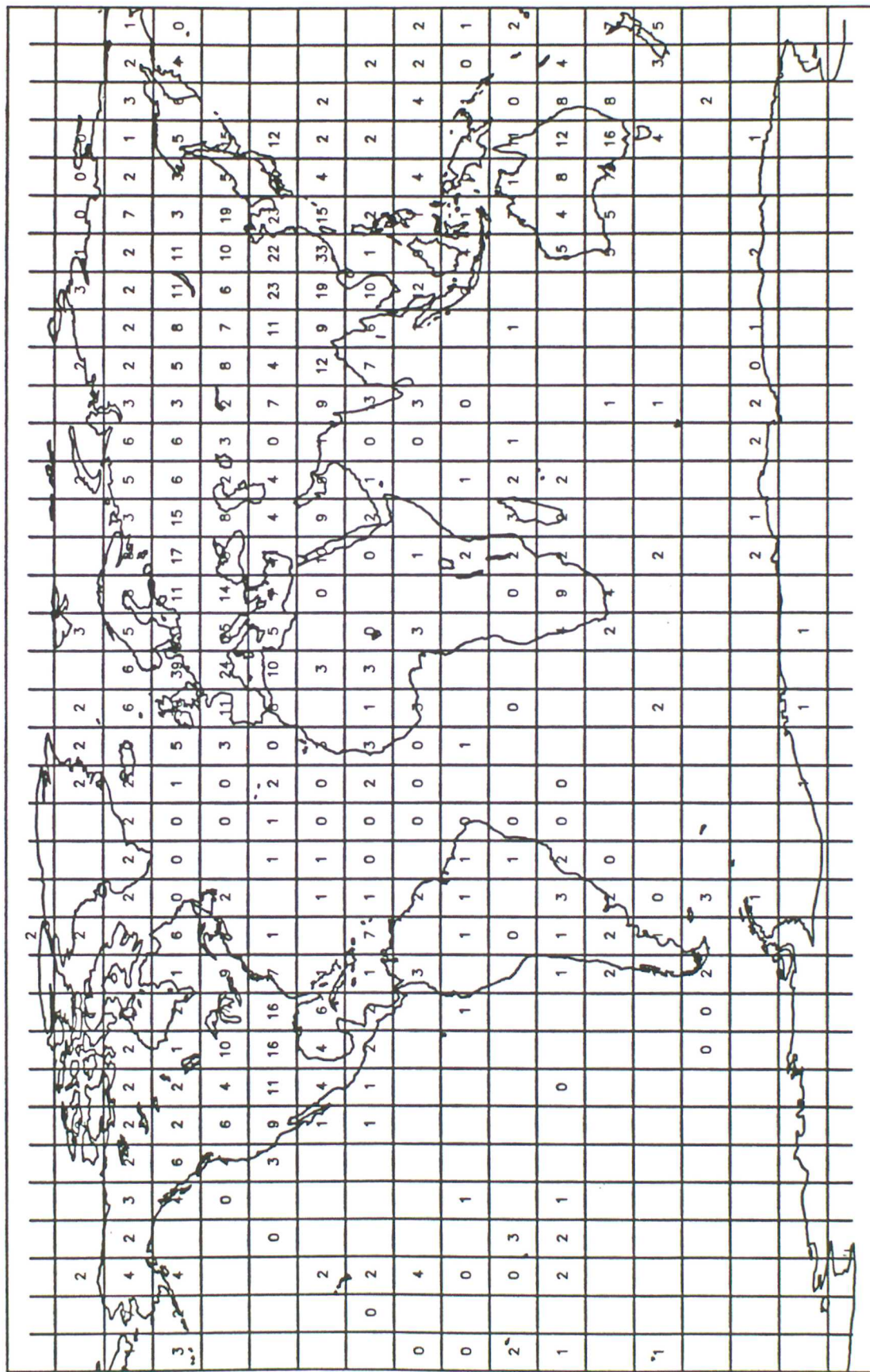


TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for radiosonde TEMPs.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from Bracknell global model.
Observation times	:00 UTC and 12 UTC.
Level(s) monitored	:Standard levels between 1000.0 - 100.0 hPa
Element monitored	:VECTOR WIND in m s^{-1}
Parameters monitored	
	:NUM OBS :Number of observations available at level shown during period.
	:NUM GROSS :Number of gross errors at level shown during period.
	:% REJ :Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS :Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2
SELECTION CRITERIA	: ≥ 10 observations and $\geq 15 \text{ m s}^{-1}$ RMS vector wind.

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH
 HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
68240	12	V	200	-24/ 26	11	0	9	2.2	-2.4	15.4	1
71203	00	V	250	50/ -12	31	0	54	-10.5	-1.7	17.4	2
71203	12	V	250	50/ -12	28	0	53	-9.8	-2.0	15.8	1
74455	00	V	200	48/ -91	26	0	11	8.1	4.8	18.8	3
74455	12	V	200	48/ -91	23	0	13	10.4	6.6	15.4	1
83612	00	V	200	-20/ -55	24	0	20	4.2	0.0	18.6	2
83612	12	V	200	-20/ -55	24	0	16	6.3	0.9	16.4	2
89009	00	V	300	-90/ 0	18	0	16	1.9	1.4	16.2	1
89542	00	V	300	-68/ 46	26	0	42	14.4	-2.0	23.9	7
89542	12	V	250	-68/ 46	10	0	10	8.3	4.3	20.2	1

FIGURE 9

ALL HOURS	10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS	TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS - 1263

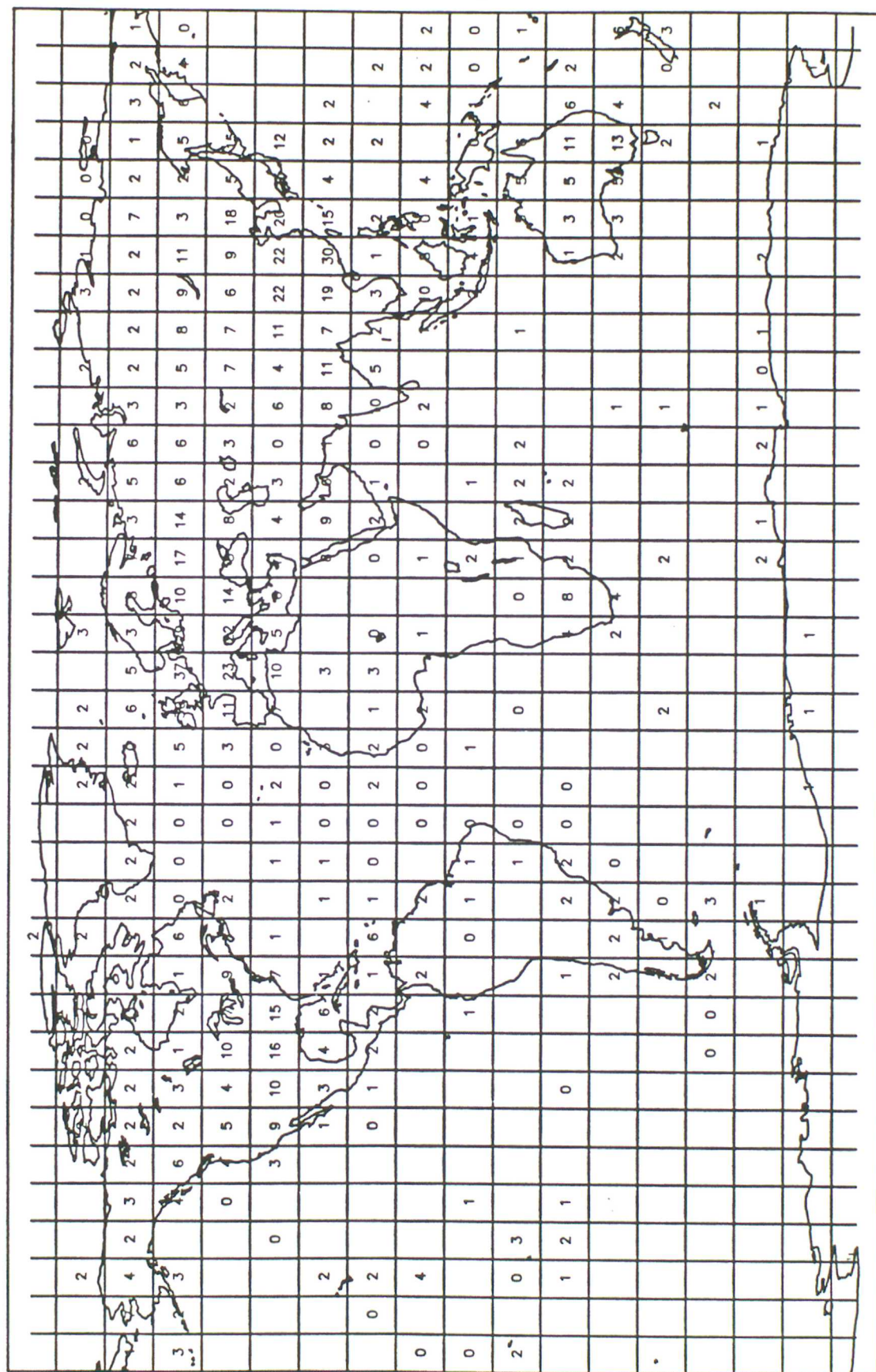


TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period : One calendar month.

Data monitored : Reports from each unique identifier for radiosonde TEMPs.

Area monitored : 90°N - 90°S, 180°W - 180°E.

Standard of comparison : Background field from Bracknell global model.

Observation times : 00 UTC and 12 UTC.

Level(s) monitored : Standard levels between 500.0 - 150.0 hPa

Element monitored : WIND DIRECTION in degrees

Parameters monitored

: NUM OBS : Average number of observations at all levels.

: BIAS : Mean difference of observations from background values from all levels.

: MAX SPREAD : (For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

: SD : SD of difference of observations from background values at all levels.

SELECTION CRITERIA

: NUM OBS ≥ 5 , and
 ABSOLUTE BIAS $\geq 10^\circ$, with
 SD $< 30^\circ$, and
 MAX SPREAD $< 10^\circ$

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
10828	00	DD	48/ 9	17	12.4	3.4	10.6
10828	12	DD	48/ 9	13	12.4	2.7	9.6
17280	12	DD	38/ 40	23	-10.7	4.3	10.7
31168	00	DD	56/ 138	10	13.1	9.4	12.5
40265	00	DD	32/ 36	26	-47.8	9.9	27.3
42027	12	DD	34/ 75	9	-15.3	5.0	14.6
42314	12	DD	27/ 95	5	-12.4	8.3	16.6
48855	00	DD	16/ 108	19	-11.7	9.6	22.9
53614	12	DD	38/ 106	29	-13.3	4.4	9.3
56691	12	DD	27/ 104	26	-10.8	7.7	16.6
57516	00	DD	30/ 106	29	-10.1	9.0	21.3
60490	12	DD	36/ -1	14	-11.7	9.7	21.3
60571	00	DD	32/ -2	12	15.6	7.3	15.1
60571	12	DD	32/ -2	18	10.4	6.4	14.5
67083	00	DD	-19/ 47	22	13.4	4.7	14.1
67083	12	DD	-19/ 47	20	14.9	5.5	13.4
72248	12	DD	32/ -94	25	-11.8	3.9	12.1
83378	00	DD	-16/ -48	10	-20.8	8.1	26.1
89564	00	DD	-68/ 63	23	11.3	1.4	23.8
89564	12	DD	-68/ 63	21	22.4	5.1	26.6
91765	00	DD	-14/-171	24	-11.5	7.4	28.2
96935	00	DD	-7/ 113	18	15.2	9.0	27.1

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: BRACKNELL

MONTH: May, 95

Monitoring procedures

Period : One calendar month.

Data monitored : Reports from GOES, METEOSAT, GMS, INSAT.

Standard of comparison : Background field from Bracknell global model.

Selection Criteria : number of observations > 10.

Data Extracted : Layer: 701 - 1000 hPa
 401 - 700 hPa
 101 - 400 hPa

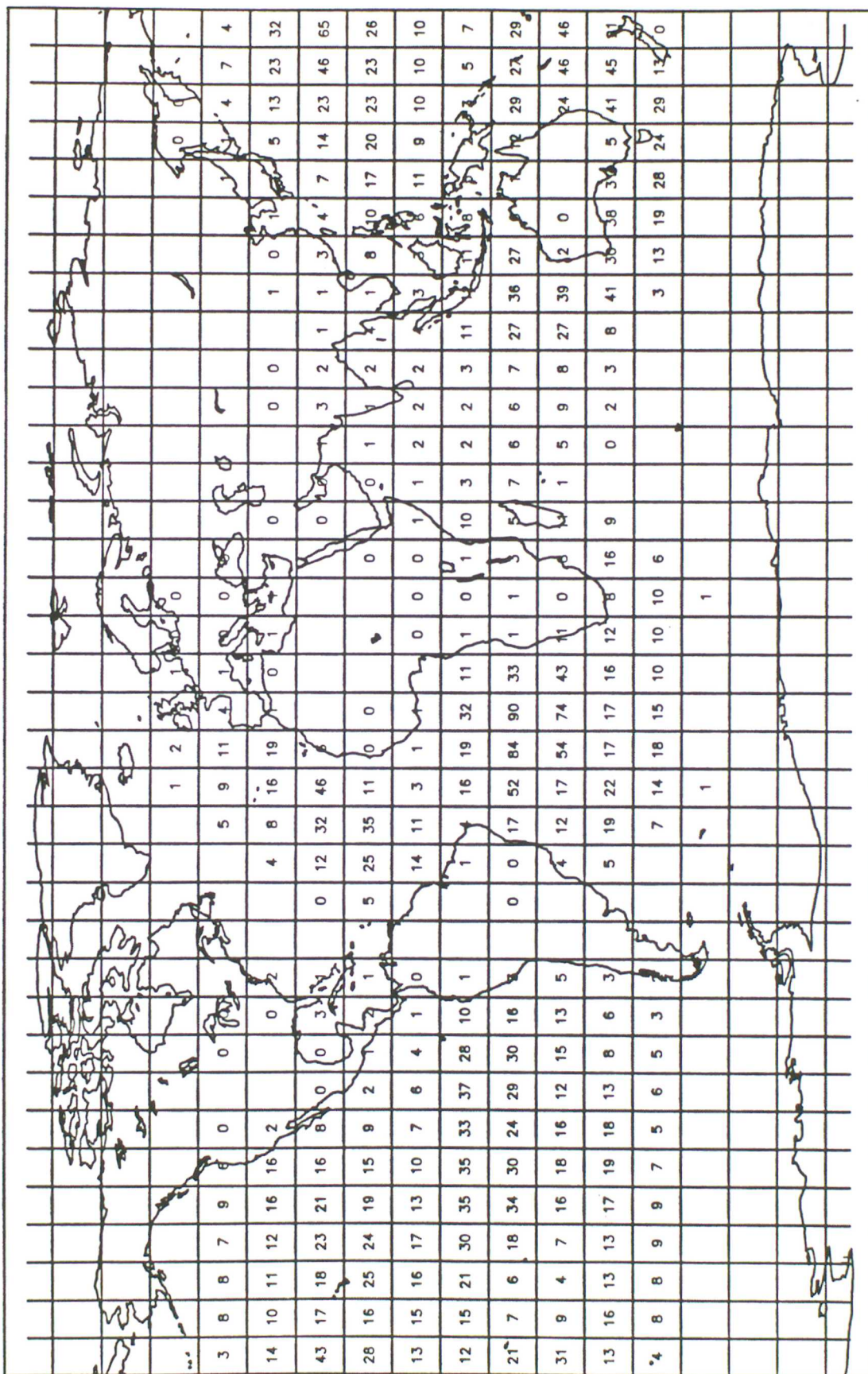
: Mean wind

: Mean observation minus background vector wind differences

: Mean observation minus background speed differences

: RMS of observation minus background vector differences

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 701 AND 1000 HPA MAY 1995



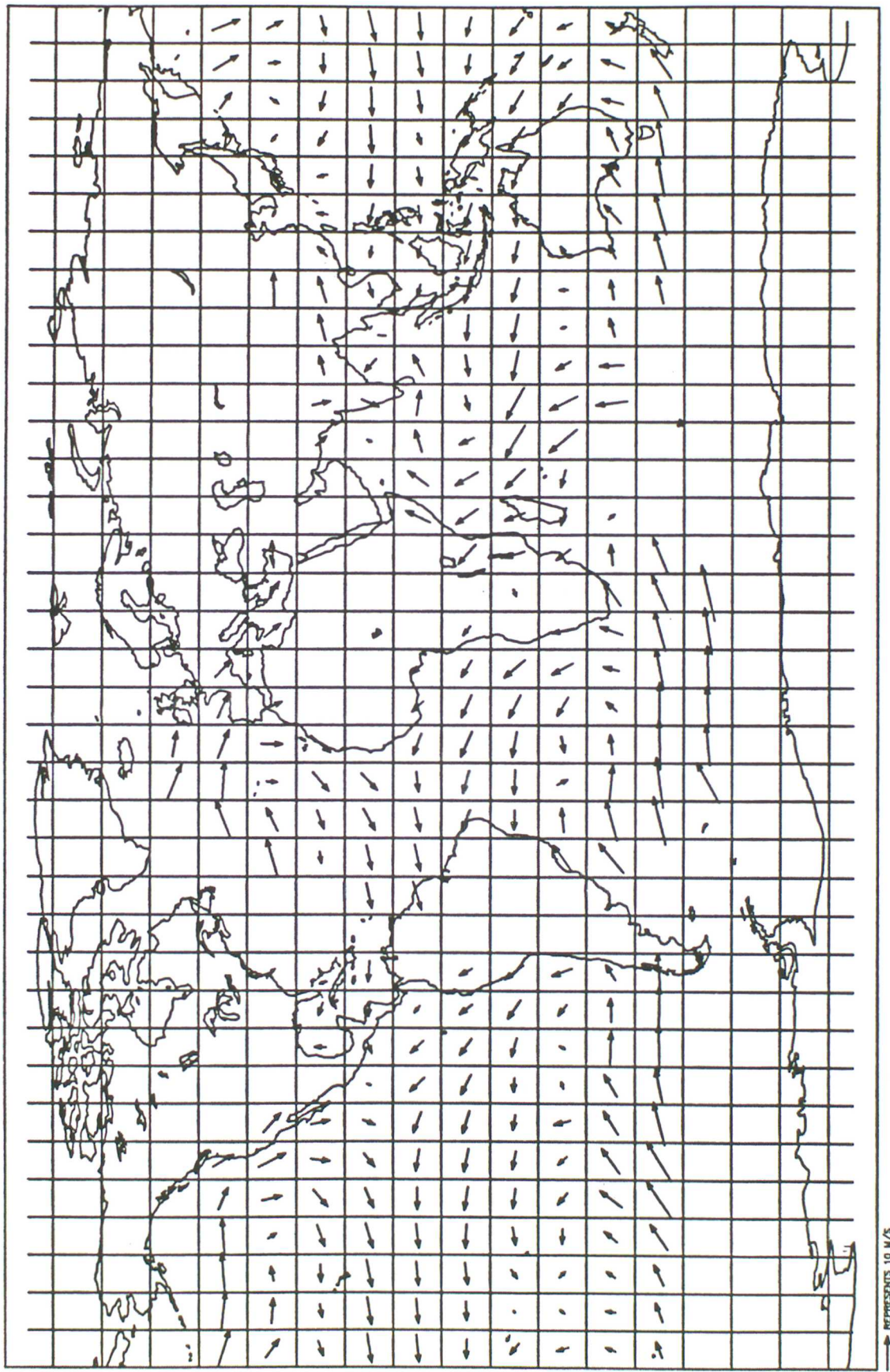
SATOB VECTOR MEAN WINDS BETWEEN 701-1000 HPA

MAY 1995

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 11



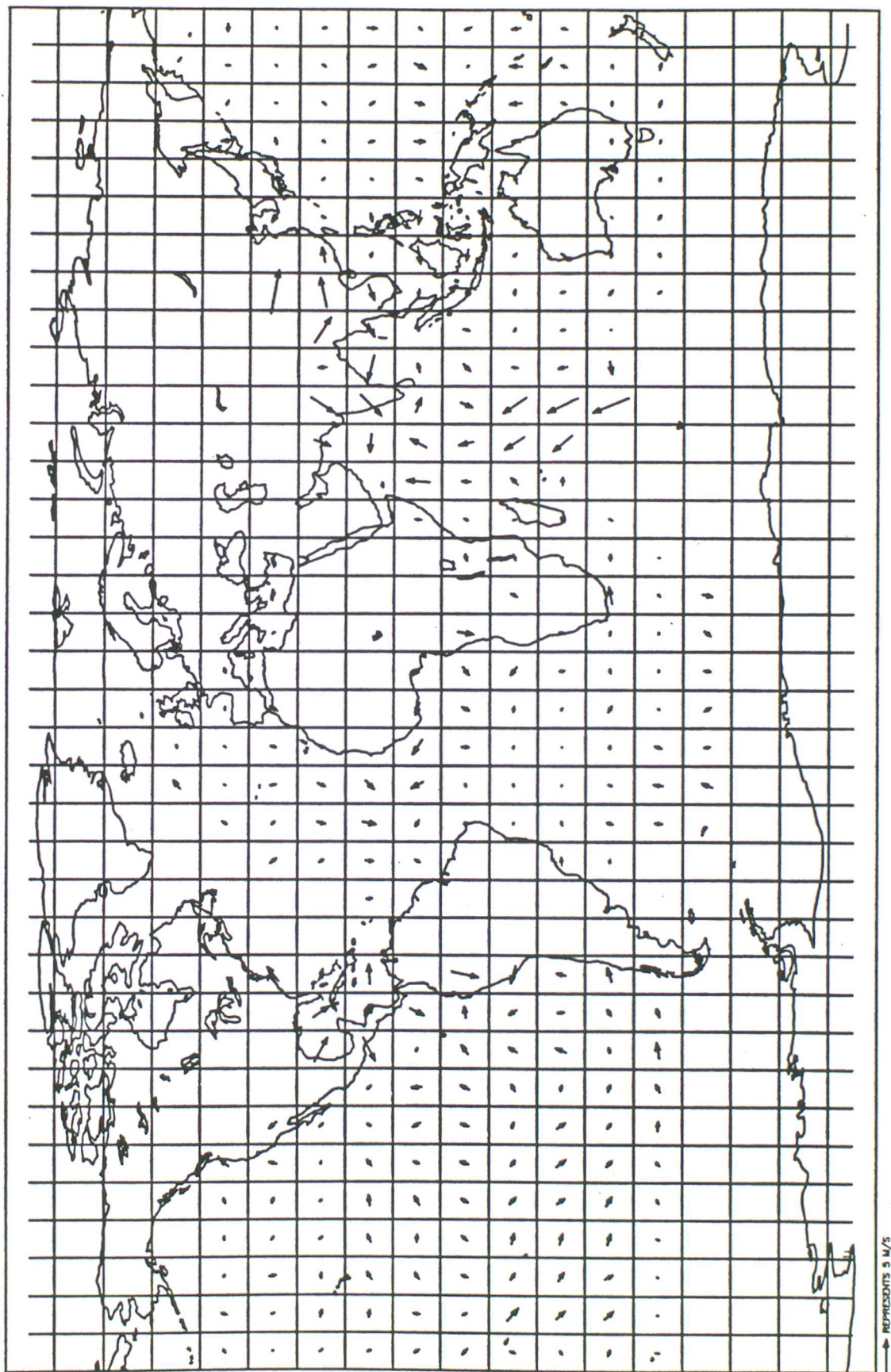
SATOB O-B VECTOR WIND DIFFERENCES BETWEEN 701-1000 HPA

MAY 1995

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

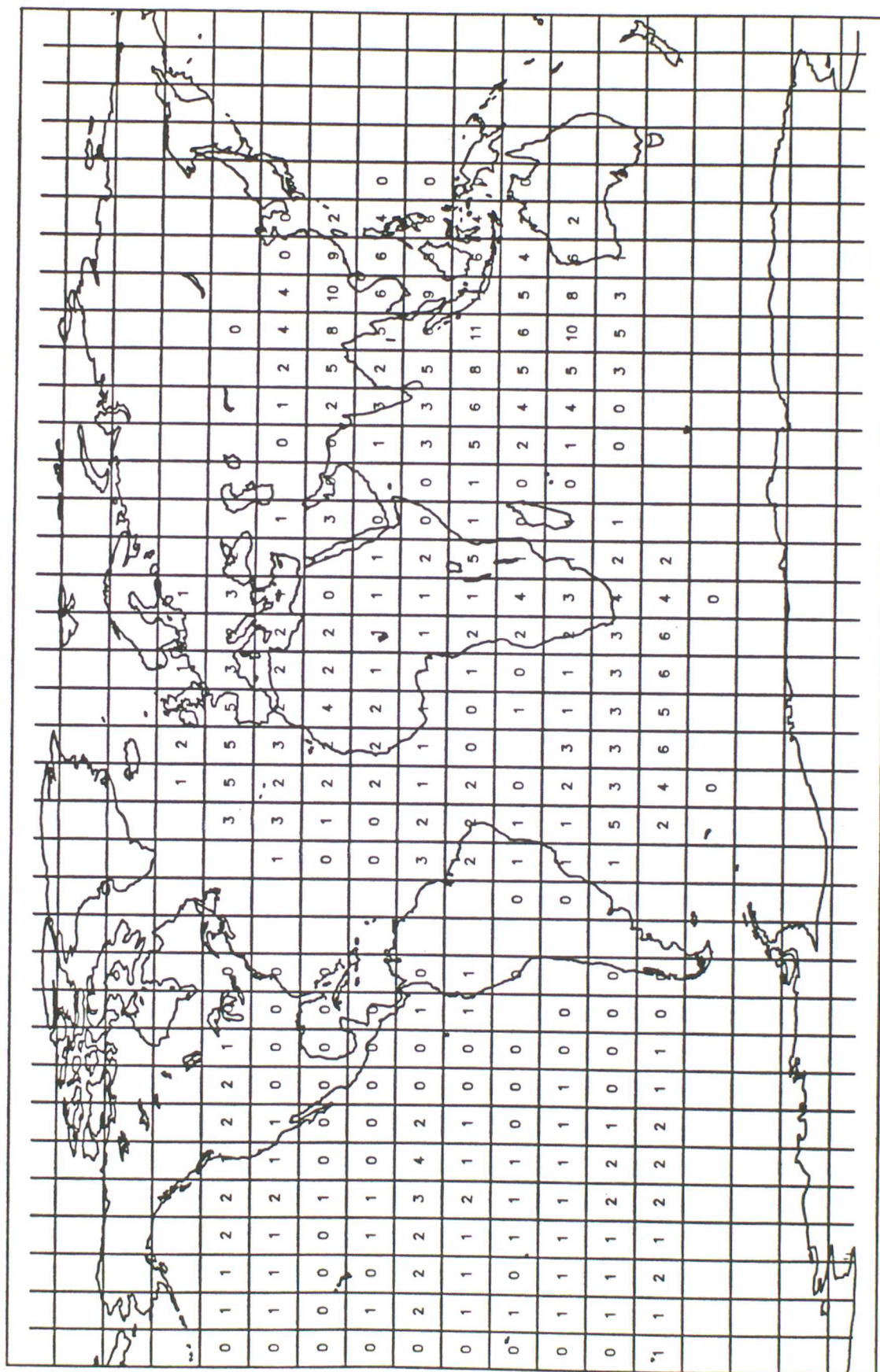
FIGURE 12



The map displays the British Isles (Great Britain and Ireland) with a grid overlay. Numbers are distributed across the grid cells, primarily concentrated in the central and eastern parts of Great Britain. The numbers include 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11. The distribution is as follows:

- North of Scotland:** 10, 11
- Central Scotland:** 10, 11
- North of England:** 10, 11
- Central England:** 10, 11
- South of England:** 10, 11
- Wales:** 10, 11
- Ireland:** 10, 11

FIGURE 15
AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 401 AND 700 HPA MAY 1995



SATOB VECTOR MEAN WINDS BETWEEN 401-700 HPA

MAY 1995

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 16

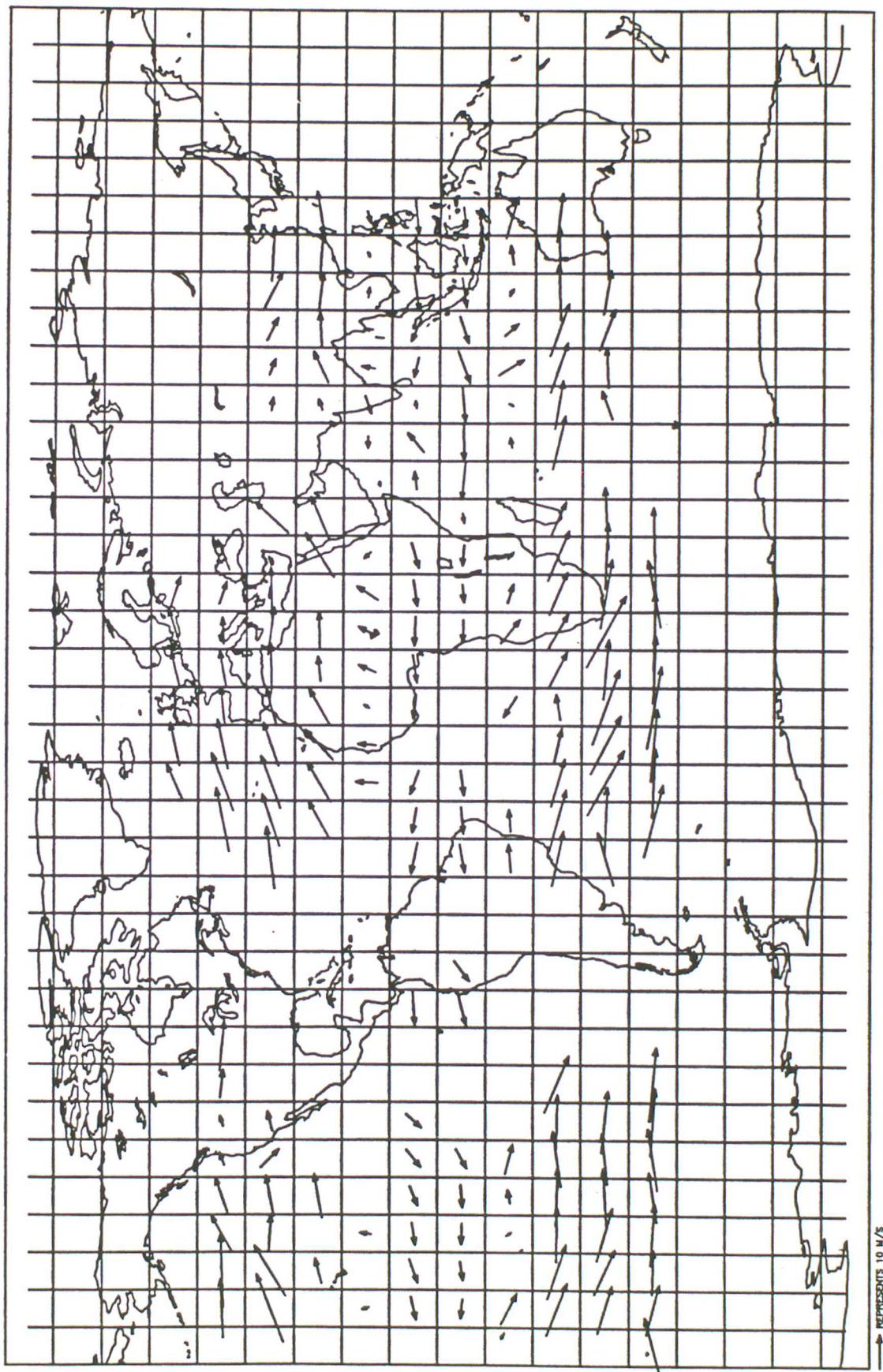


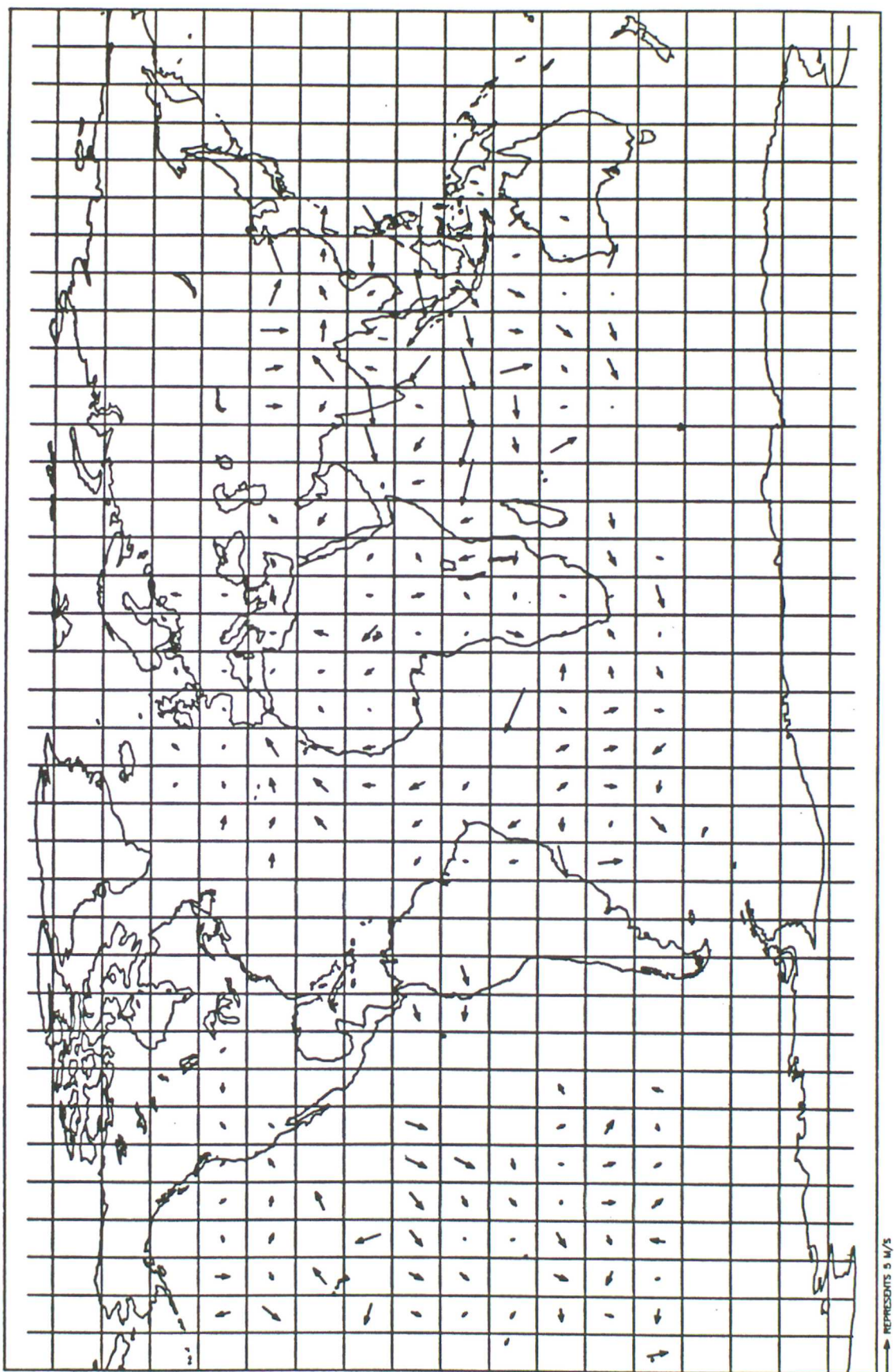
FIGURE 17

SATOB O-B VECTOR WIND DIFFERENCES BETWEEN 401-700 HPA

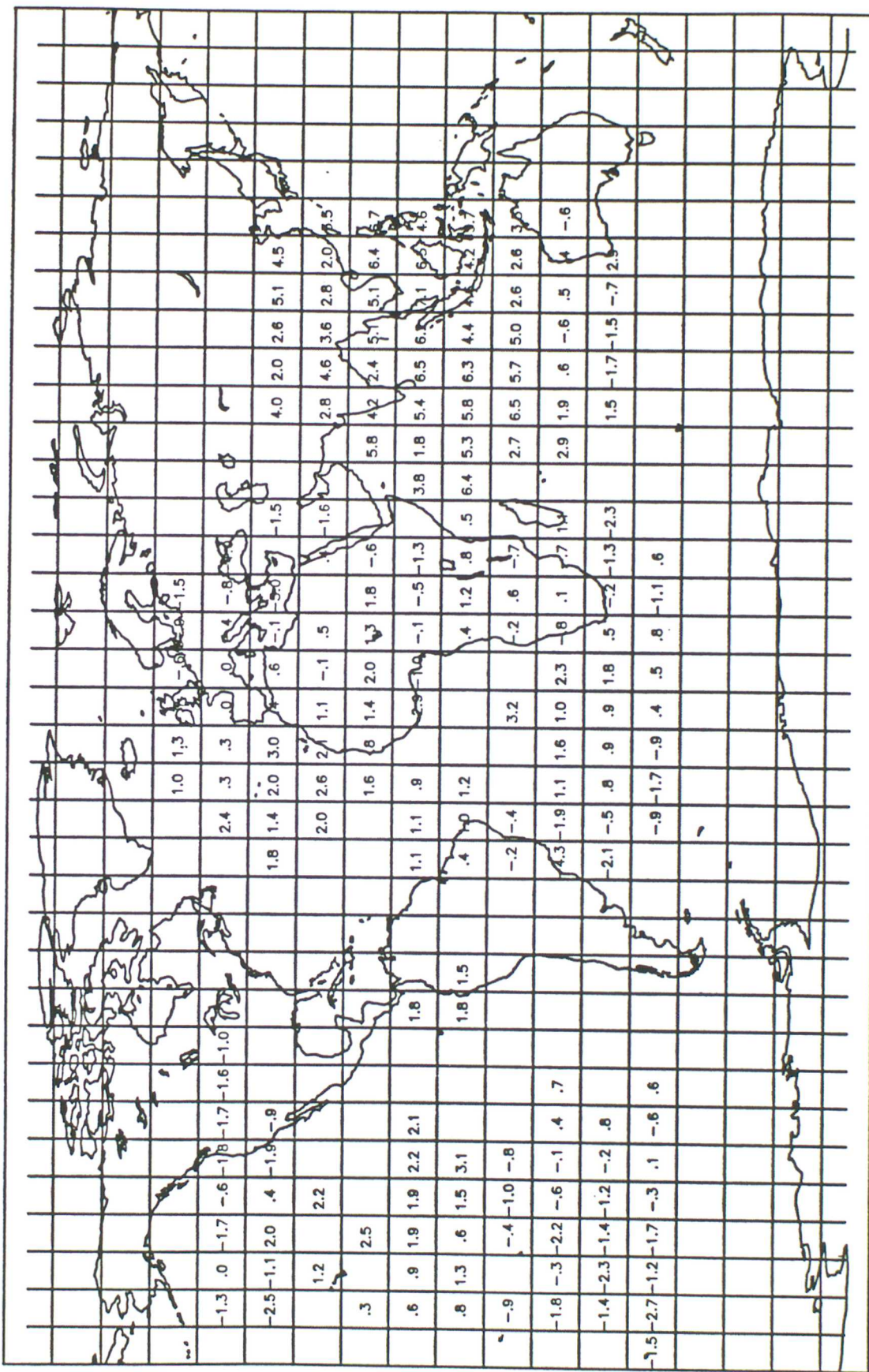
MAY 1995

ALL OBSERVATIONS

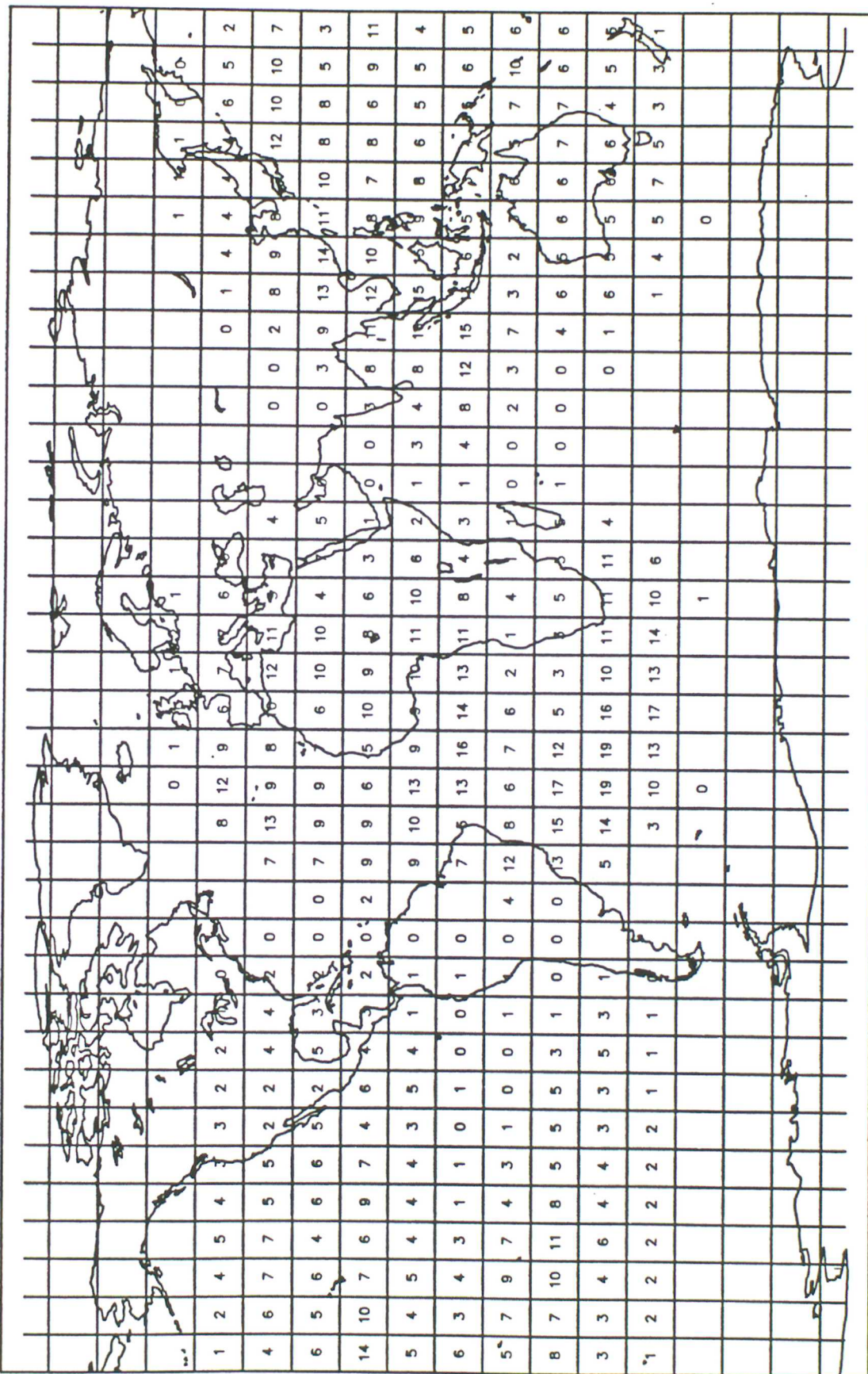
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT



SATOB5 : MEAN O-B SPEED DIFFERENCES (M/S) BETWEEN 401 AND 700 HPA
MAY 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT



AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 101 AND 400 HPA MAY 1995



SATOB VECTOR MEAN WINDS BETWEEN 101-400 HPA

MAY 1995

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

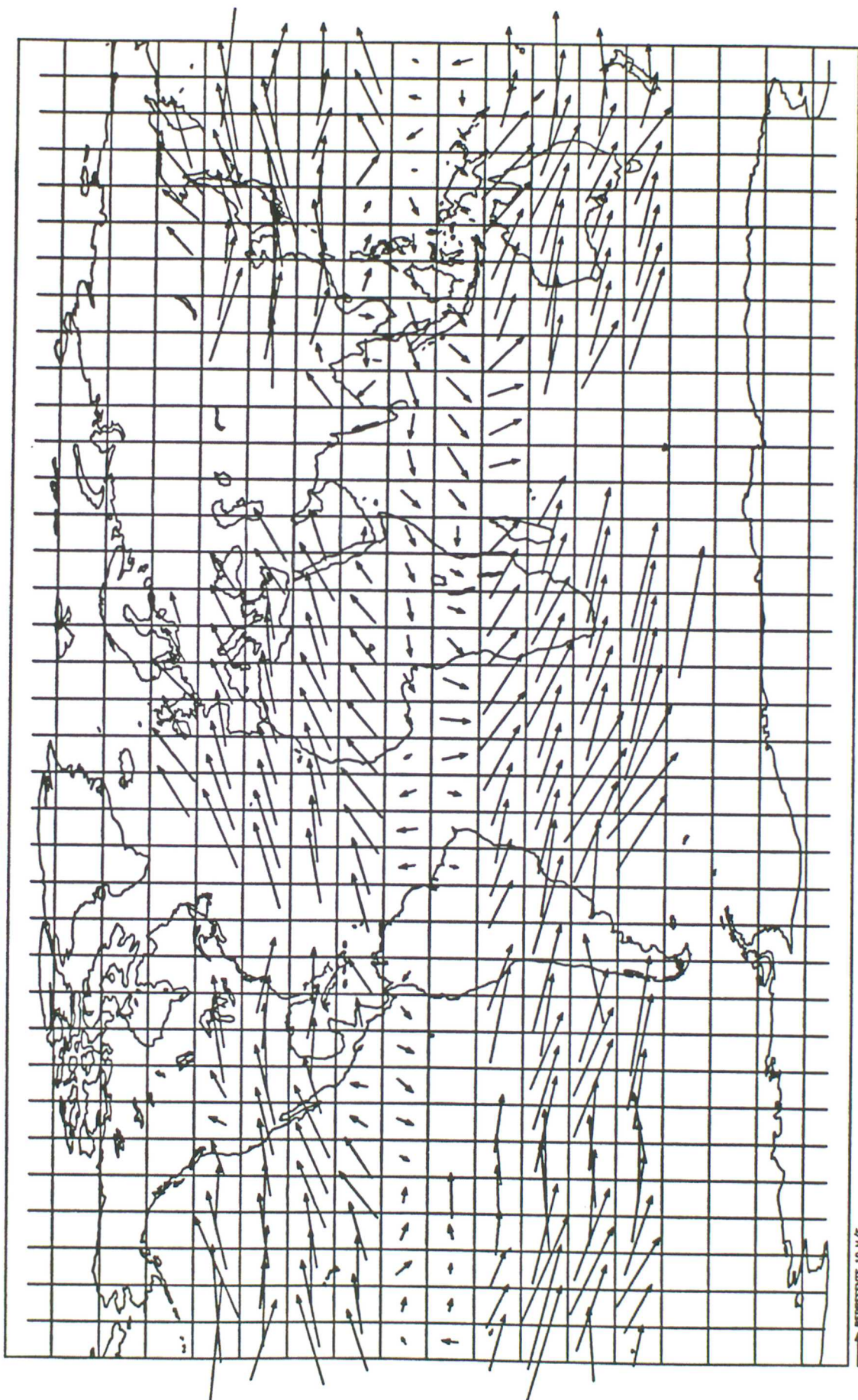
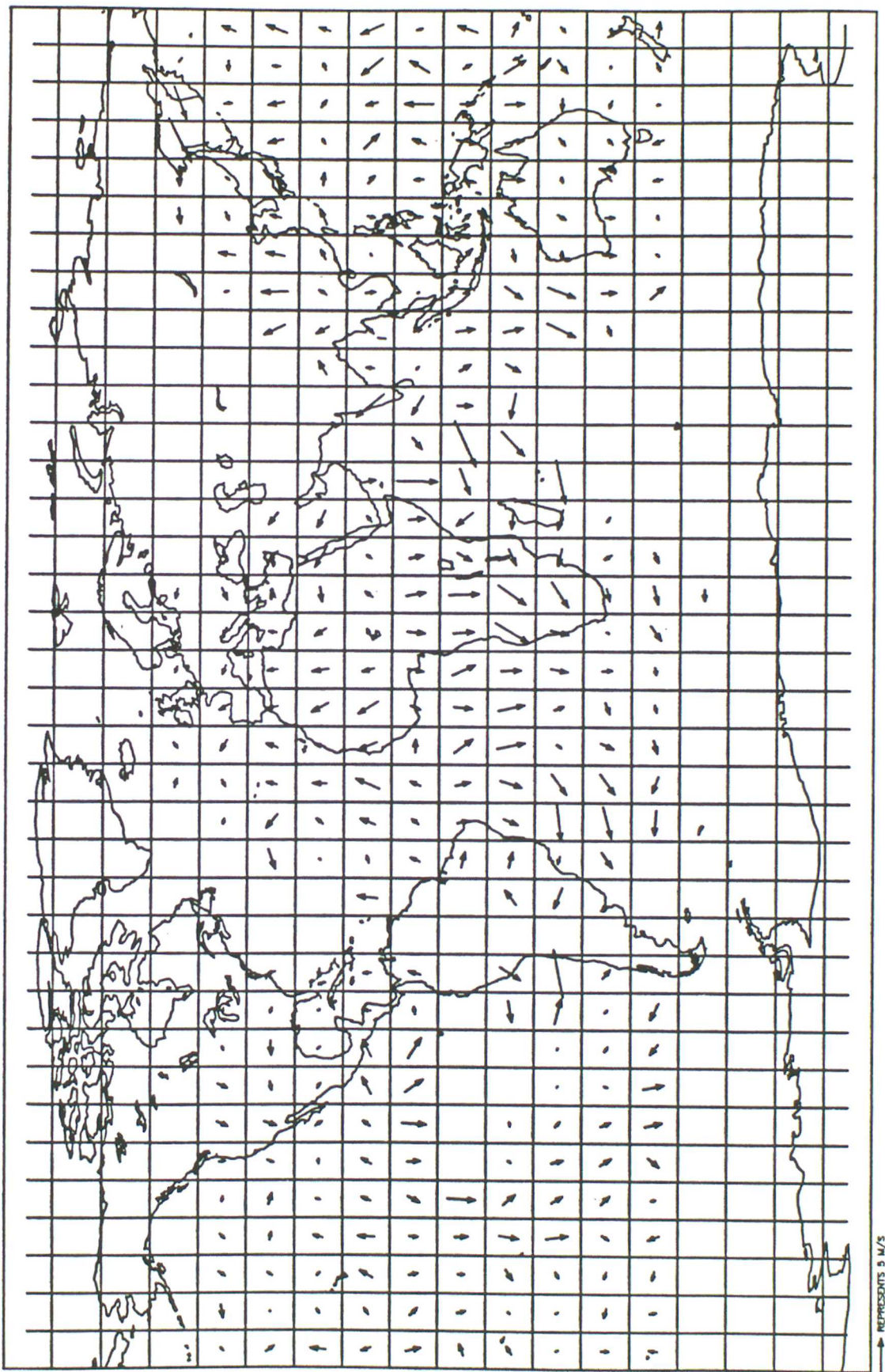


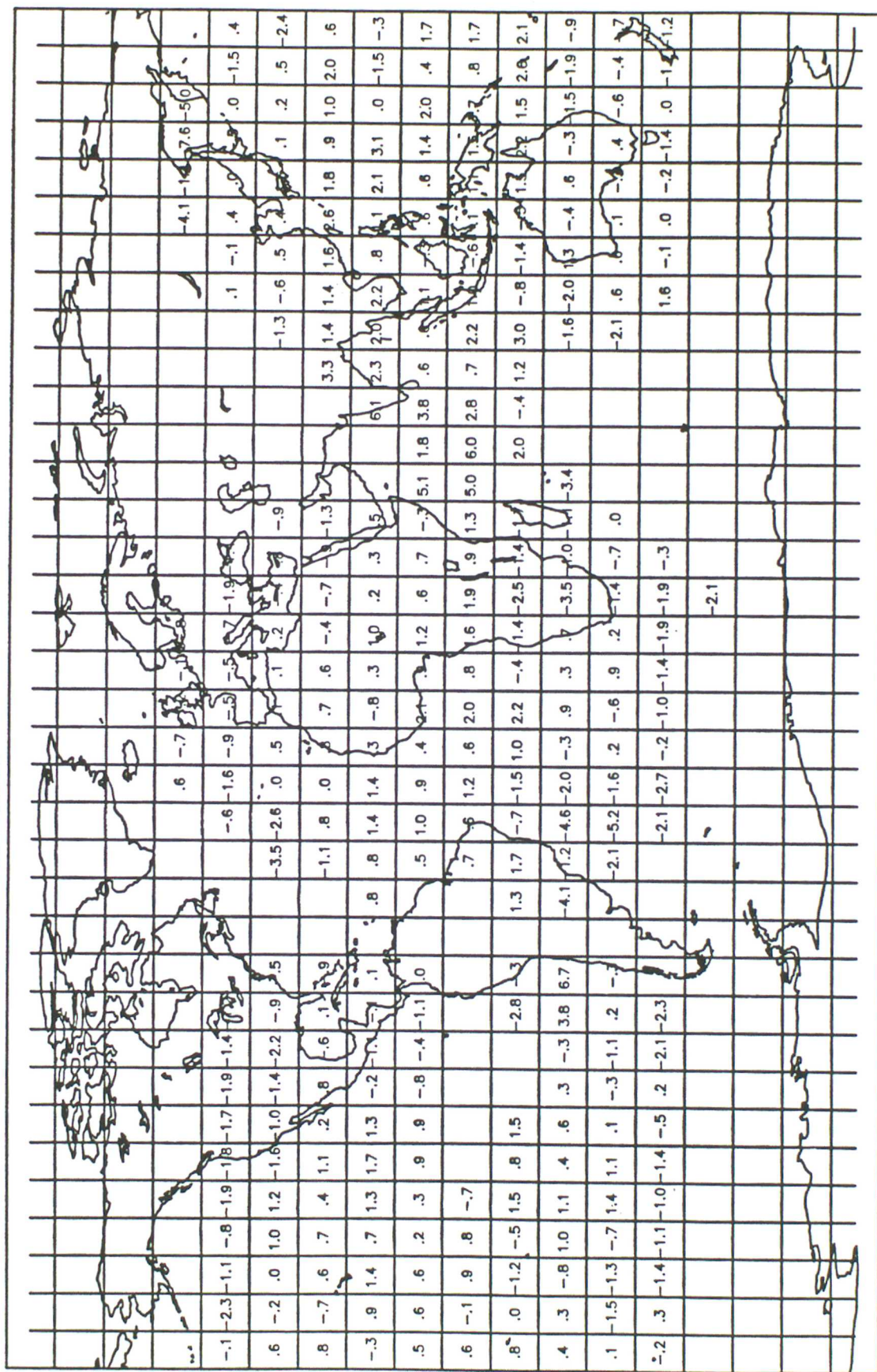
FIGURE 21

SATOB O-B VECTOR WIND DIFFERENCES BETWEEN 101-400 HPA
MAY 1995
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 22



VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT



MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: BRACKNELL

MONTH: May, 95

Monitoring procedures

Period : One calendar month.

Data monitored : Reports from NOAA-12 500 km.

Standard of comparison : Background field from Bracknell global model.

Selection Criteria : All SATEM soundings where number of observations > 30.

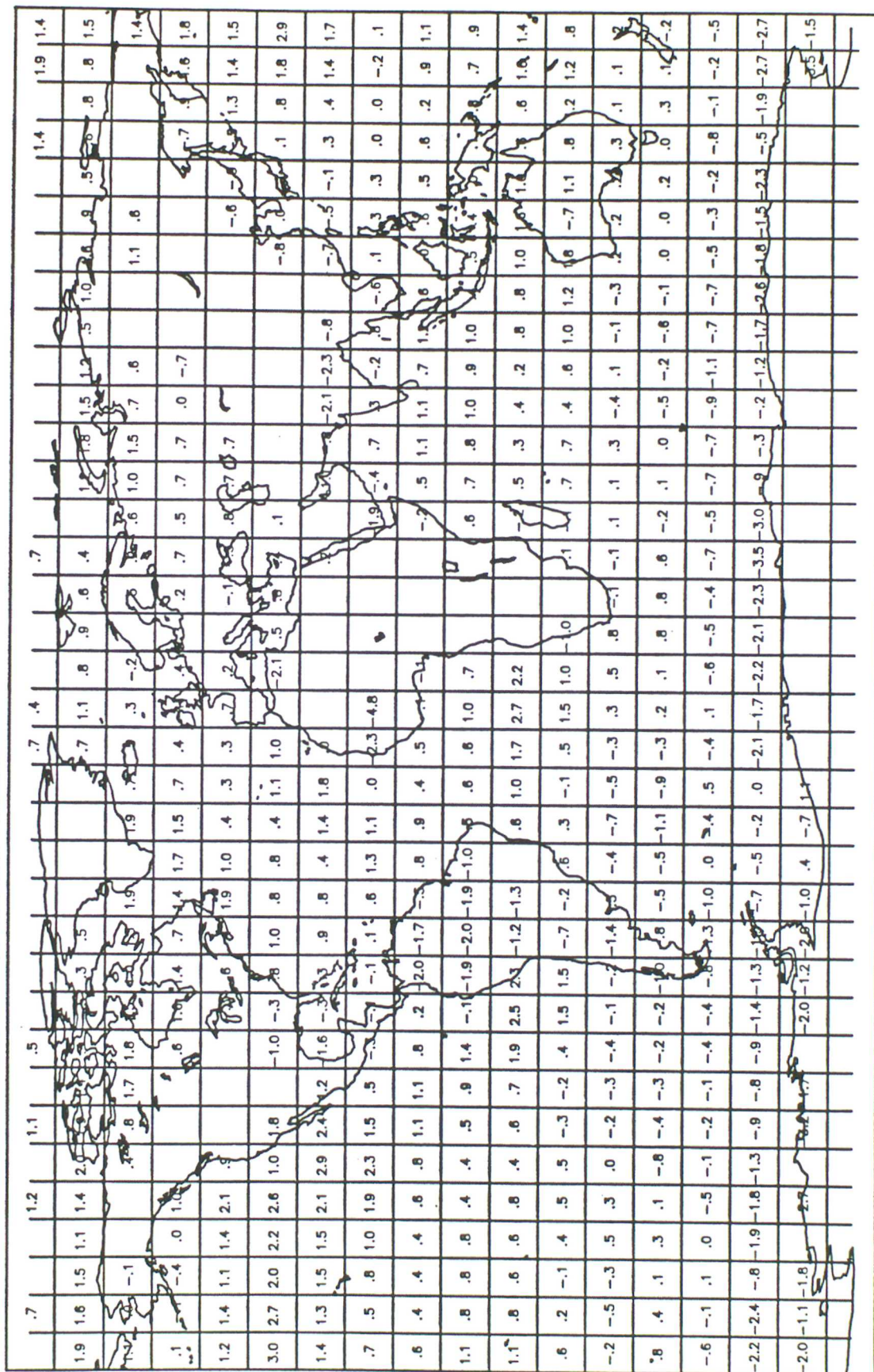
Data Extracted : Layer: 850 - 1000 hPa
 100 - 300 hPa
 30 - 50 hPa

: Mean observation minus background temperature differences

500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 850 TO 1000 HPA
MAY 1995

NOAA-12, USING ALL OBSERVATIONS

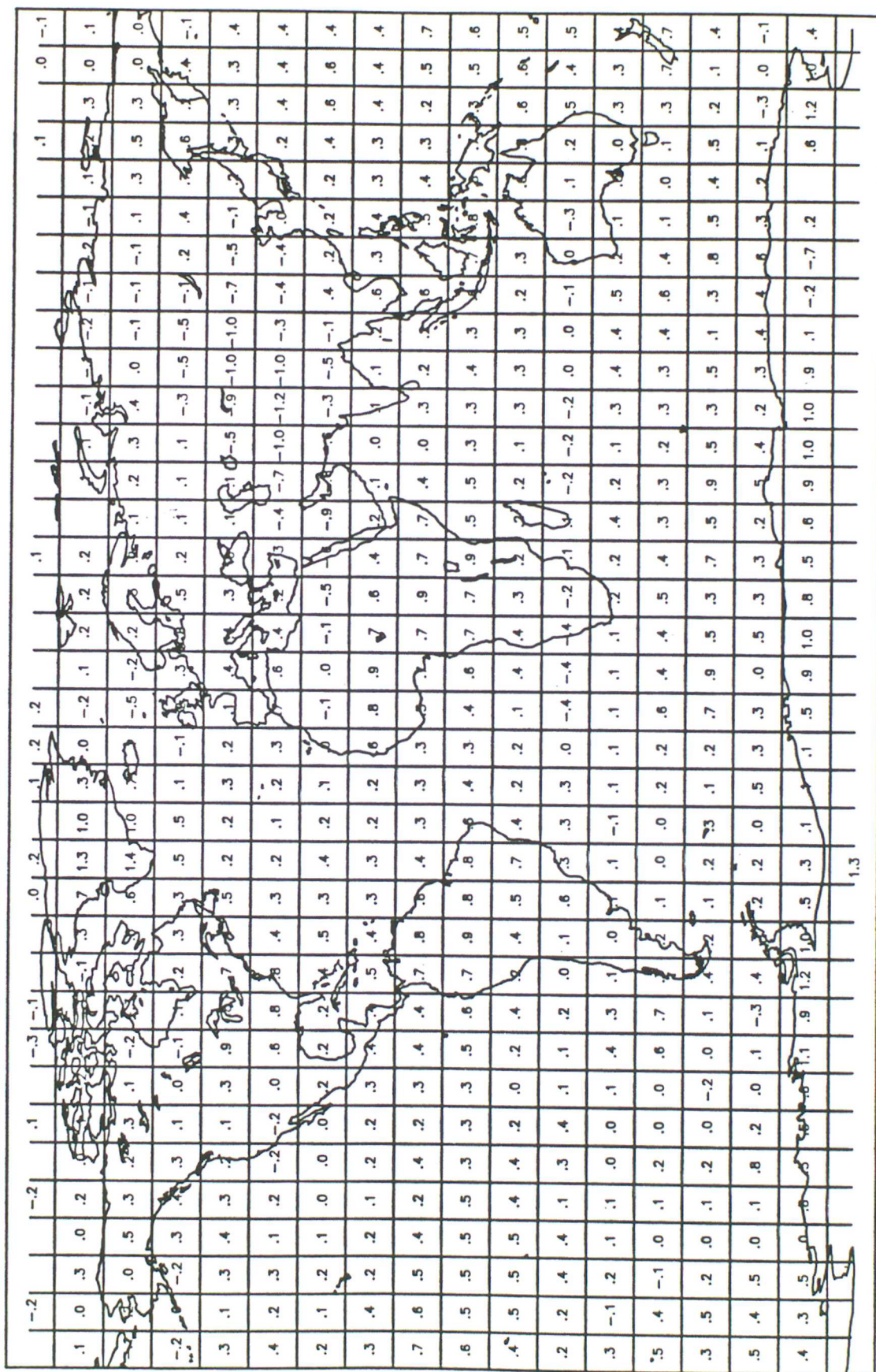
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT



500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 100 TO 300 HPA
MAY 1995

NOAA-12, USING ALL OBSERVATIONS

VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT



500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 30 TO 50 HPA
MAY 1995

NOAA-12, USING ALL OBSERVATIONS

VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

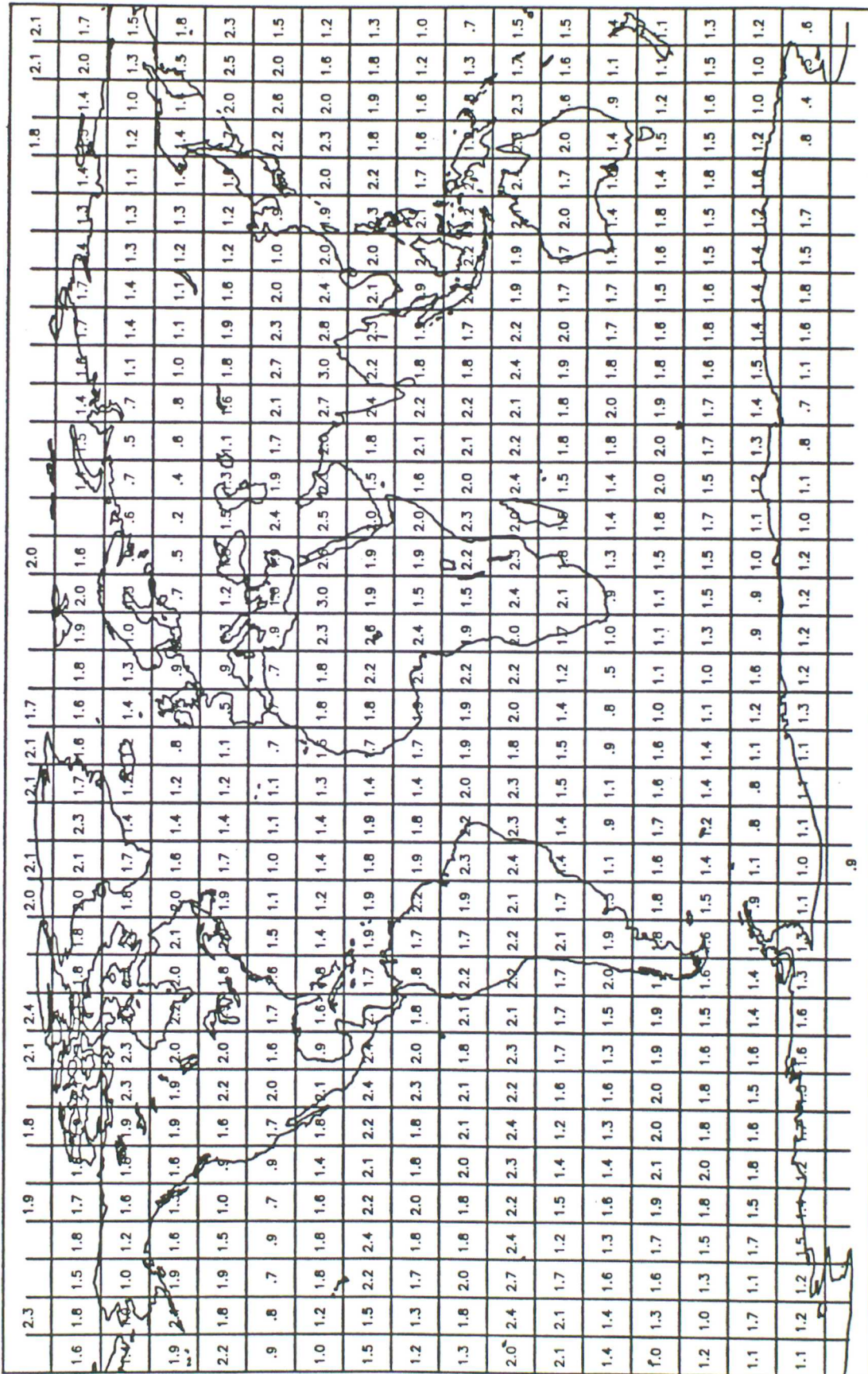


TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)

DATA TYPE:- DRIFTER

MONITORING CENTRE: BRACKNELL

MONTH: May, 95

Monitoring procedures	
Period	:One calendar month.
Data monitored	:Reports from each unique identifier for drifting buoy.
Area monitored	:10°N - 80°N, 85°W - 0°W
Standard of comparison	:Background field from Bracknell global model.
Position	:Average latitude and longitude for period.
Observation times	:All hours combined.
Elements monitored	:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored	:NOBS :Number of observations received excluding duplicates. :NGE :Number of observations with gross errors. :PGE :Percentage of observations with gross errors. :SD :SD of difference of observations from background values excluding those with gross errors. :BIAS :Mean difference of observations from background values excluding those with gross errors. N.B. A positive bias indicates the observation is veered to the background :RMS :Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed $> 5 \text{ m s}^{-1}$

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
------------	------	-------	------	------	-------	------	-----	-----	----	------	-----

MEAN SEA LEVEL PRESSURE

25538	68.4	-23.6	ALL	MSLP	SUR	277	0	0	1.2	-1.7	2.0
25539	72.9	-12.3	ALL	MSLP	SUR	331	0	0	1.1	-2.6	2.9
25552	74.2	-16.4	ALL	MSLP	SUR	175	0	0	1.0	-0.7	1.3
25565	58.3	-45.8	ALL	MSLP	SUR	687	0	0	1.1	-0.2	1.1
29505	35.8	-63.1	ALL	MSLP	SUR	8	0	0	0.9	-1.0	1.3
39505	34.6	-54.6	ALL	MSLP	SUR	8	0	0	1.4	-1.3	1.9
40603	16.5	-30.8	ALL	MSLP	SUR	8	0	0	0.7	2.4	2.5
44613	51.7	-50.4	ALL	MSLP	SUR	807	1	0	1.2	-0.4	1.3
44614	56.9	-6.3	ALL	MSLP	SUR	647	0	0	1.0	-0.1	1.0
44616	55.2	-43.1	ALL	MSLP	SUR	1664	4	0	1.1	0.7	1.3
44624	49.3	-15.6	ALL	MSLP	SUR	1290	4	0	1.0	0.1	1.0
44726	55.2	-18.6	ALL	MSLP	SUR	1703	5	0	1.0	0.6	1.2
44728	55.7	-42.0	ALL	MSLP	SUR	1495	6	0	1.0	0.0	1.0
44742	57.0	-41.4	ALL	MSLP	SUR	1866	1	0	0.9	0.0	0.9
44762	52.3	-10.2	ALL	MSLP	SUR	6	1	17	4.4	-3.3	5.5
44764	59.0	-13.9	ALL	MSLP	SUR	1845	2	0	1.0	0.0	1.0
44776	59.3	-5.0	ALL	MSLP	SUR	1853	3	0	0.9	0.0	0.9
44777	38.3	-36.7	ALL	MSLP	SUR	265	0	0	1.1	-0.3	1.2
44779	35.6	-40.0	ALL	MSLP	SUR	255	0	0	1.1	0.2	1.1
44780	54.0	-14.9	ALL	MSLP	SUR	1629	6	0	0.9	0.1	0.9
49505	39.6	-44.9	ALL	MSLP	SUR	2	0	0	0.1	-1.6	1.6
50602	13.6	-69.9	ALL	MSLP	SUR	1	0	0	0.0	-0.8	0.8
62515	44.6	-18.3	ALL	MSLP	SUR	12	0	0	1.2	0.3	1.2
62517	46.9	-20.6	ALL	MSLP	SUR	728	0	0	1.0	0.5	1.2
62518	45.2	-18.4	ALL	MSLP	SUR	707	0	0	1.1	0.0	1.1
62519	48.4	-20.2	ALL	MSLP	SUR	761	0	0	1.2	-0.1	1.2
62524	26.5	-42.4	ALL	MSLP	SUR	780	1	0	1.4	0.1	1.4
62673	54.5	-31.8	ALL	MSLP	SUR	577	0	0	1.1	0.5	1.2
62674	54.6	-21.2	ALL	MSLP	SUR	53	0	0	0.8	0.5	0.9
62675	54.8	-25.9	ALL	MSLP	SUR	417	0	0	1.2	0.4	1.3
62805	57.6	-28.8	ALL	MSLP	SUR	29	0	0	1.2	-1.3	1.7
64528	58.2	-6.3	ALL	MSLP	SUR	20	0	0	0.4	-1.2	1.3
64529	60.1	-24.6	ALL	MSLP	SUR	1086	34	3	1.1	0.1	1.1
64544	56.4	-41.6	ALL	MSLP	SUR	395	0	0	0.8	0.1	0.9
64575	60.5	-29.7	ALL	MSLP	SUR	632	0	0	0.8	0.3	0.8
64576	59.7	-22.7	ALL	MSLP	SUR	627	0	0	0.9	0.4	0.9
64577	59.6	-16.8	ALL	MSLP	SUR	593	0	0	0.9	-0.1	1.0
64588	56.2	-34.5	ALL	MSLP	SUR	420	0	0	1.1	0.1	1.1
64589	61.1	-32.8	ALL	MSLP	SUR	172	0	0	0.9	1.8	2.0
65562	59.7	-25.8	ALL	MSLP	SUR	1882	0	0	0.9	0.0	0.9
65571	58.4	-6.4	ALL	MSLP	SUR	308	1	0	1.8	-1.0	2.0
65581	58.6	-40.4	ALL	MSLP	SUR	1693	0	0	0.9	-0.3	0.9

WIND SPEED

29505	35.8	-63.1	ALL	SPEED	SUR	5	1	20	0.6	0.7	0.9
39505	34.6	-54.6	ALL	SPEED	SUR	6	0	0	1.3	1.2	1.8
40603	16.5	-30.8	ALL	SPEED	SUR	7	0	0	2.1	0.8	2.2
44613	51.7	-50.4	ALL	SPEED	SUR	759	2	0	2.0	-0.2	2.0
44742	57.0	-41.4	ALL	SPEED	SUR	1685	2	0	2.7	-3.1	4.2
44762	52.3	-10.2	ALL	SPEED	SUR	6	0	0	4.2	0.1	4.2
44764	59.0	-13.9	ALL	SPEED	SUR	1278	2	0	2.3	-3.1	3.9
44776	59.3	-5.0	ALL	SPEED	SUR	927	0	0	1.8	-0.8	2.0
49505	39.6	-44.9	ALL	SPEED	SUR	2	0	0	5.1	2.7	5.8
50602	13.6	-69.9	ALL	SPEED	SUR	1	0	0	0.0	1.0	1.0
62518	45.2	-18.4	ALL	SPEED	SUR	688	0	0	1.8	-0.1	1.8
62519	48.4	-20.2	ALL	SPEED	SUR	744	0	0	1.7	-0.3	1.7

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
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WIND DIRECTION

29505	35.8	-63.1	ALL	DIRN.	SUR	2	1	50	0.0	-30.8	30.8
39505	34.6	-54.6	ALL	DIRN.	SUR	4	0	0	13.9	10.2	17.2
40603	16.5	-30.8	ALL	DIRN.	SUR	7	0	0	12.7	8.4	15.2
44613	51.7	-50.4	ALL	DIRN.	SUR	570	2	0	20.0	22.7	30.3
44742	57.0	-41.4	ALL	DIRN.	SUR	1346	2	0	15.8	27.7	31.9
44762	52.3	-10.2	ALL	DIRN.	SUR	6	0	0	96.1	2.1	96.1
44764	59.0	-13.9	ALL	DIRN.	SUR	1027	2	0	23.4	-11.3	26.0
44776	59.3	-5.0	ALL	DIRN.	SUR	746	0	0	81.3	-15.7	82.8
49505	39.6	-44.9	ALL	DIRN.	SUR	1	0	0	0.0	-5.5	5.5
50602	13.6	-69.9	ALL	DIRN.	SUR	1	0	0	0.0	10.3	10.3
62518	45.2	-18.4	ALL	DIRN.	SUR	487	0	0	23.8	-0.5	23.8
62519	48.4	-20.2	ALL	DIRN.	SUR	608	0	0	17.6	-5.4	18.4

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures:		
Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:40°N - 70°N, 60°W - 0°W.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:All hours combined.
Level(s) monitored		:300.0 - 150.0 hPa
Elements monitored		:TEMP in °C ; WIND in m s ⁻¹
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.
GROSS ERROR LIMITS		:10.0 °C ; 60 m s ⁻¹ Vector Wind
SELECTION CRITERIA		:N REP ≥ 20

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				
		PG	PR	RMS	BIAS		PG	PR	PC	RMS	BIAS
AAL	2664	0	1	1.7	-0.1	2675	0	1	0	6.3	1.0
AAN	55	4	2	2.1	-0.6	54	0	0	0	7.1	0.9
ACA	660	0	1	1.8	0.1	662	0	1	0	5.9	0.7
AEA	50	4	100	2.2	0.0	51	0	10	0	8.2	-0.6
AEL	235	3	3	1.6	-0.1	245	0	2	0	8.6	1.1
AFL	195	1	100	2.6	1.2	195	0	47	0	7.3	1.2
AFR	694	0	6	1.9	-0.1	706	0	6	0	7.2	1.1
AHR	30	0	0	1.5	0.2	30	0	3	0	8.0	1.7
AIC	20	0	5	3.6	2.4	23	0	17	0	13.6	3.5
AIH	118	0	3	1.7	0.0	119	0	3	0	6.6	0.7
AMX	115	1	1	1.8	-0.1	120	0	4	0	9.7	0.5
ANZ	141	0	3	2.1	-1.3	141	0	2	0	6.5	1.8
AOM	179	1	2	1.4	0.7	187	0	2	0	8.3	1.1
ARP	42	0	7	2.4	0.6	35	0	9	3	8.3	-0.4
ATN	25	0	4	2.9	-2.3	23	0	4	0	10.6	4.6
AUA	80	0	1	2.1	-1.2	81	0	1	0	7.4	2.6
AVA	98	1	2	2.1	0.0	104	0	6	0	8.6	1.0
AZA	395	0	2	1.8	0.5	397	0	4	0	7.6	0.8
BAL	230	1	19	1.9	-0.2	238	0	21	0	7.3	0.5
BAW	1345	0	2	1.9	0.2	1354	0	3	1	6.9	1.1
BBB	47	0	11	1.3	-0.6	47	0	11	0	8.6	2.4
BWA	107	0	2	1.7	0.9	111	0	5	2	8.3	0.1
CDN	638	0	1	1.7	0.1	638	0	2	1	5.9	1.1
CFC	37	0	16	1.4	-0.6	37	0	19	0	9.4	1.3
CFG	537	1	4	2.2	-1.3	554	0	2	0	8.1	1.0
CKT	67	0	3	1.9	0.6	70	0	0	0	6.9	1.6
CLI	175	0	1	2.0	-0.7	177	0	2	0	7.2	1.8
CLX	81	0	1	1.9	-0.8	81	0	4	2	6.0	0.9
CMM	93	0	100	1.6	0.2	93	0	22	0	6.4	2.1
COA	323	1	3	2.2	0.9	330	0	4	1	8.4	1.3
CRL	75	1	3	1.6	0.0	79	1	4	0	7.1	1.0
CTM	28	4	11	2.5	-0.9	30	0	17	0	6.7	1.5
CUB	49	2	4	1.9	0.9	52	0	100	0	8.7	0.9
DAF	32	0	3	2.3	-0.6	32	0	0	0	6.7	0.1
DAL	2923	0	1	1.9	0.2	2938	0	2	0	7.8	0.9
DHL	453	2	100	3.6	-1.3	450	0	4	0	7.9	1.2
DLH	2398	0	13	1.9	0.3	2393	0	17	3	6.9	0.9
DOA	36	0	22	2.4	-1.1	38	0	21	0	9.0	0.6
ELY	141	0	9	1.7	0.2	140	0	9	0	6.2	1.3
EWV	35	3	6	3.1	-0.7	34	0	9	0	11.7	2.2
FDX	380	1	3	1.7	0.8	387	0	5	1	7.9	0.8
FIN	396	1	1	1.7	0.2	395	0	2	1	6.4	1.6
GAF	200	0	0	1.6	0.2	195	0	3	3	5.3	1.1
HLF	106	1	3	2.2	-1.3	109	0	5	0	8.3	0.4
IBE	948	1	21	1.9	0.4	959	0	23	0	9.7	0.5
ICE	458	0	1	1.8	-0.4	449	0	3	2	6.9	1.2
KLM	1838	0	1	1.8	0.1	1858	0	3	1	7.0	1.0
LDA	112	0	10	2.0	-1.2	113	1	11	0	8.2	0.8
LDI	82	1	4	2.1	-1.2	83	0	4	0	8.5	0.2
LIB	125	2	4	1.7	0.4	126	0	4	0	7.1	0.4
LOT	327	1	1	1.8	-0.6	324	0	1	0	6.7	-0.7
LTU	493	0	2	1.8	0.1	497	0	2	0	8.1	1.2
MKD	39	0	0	1.4	-0.6	40	0	0	0	7.7	0.9
MPH	489	0	2	1.9	-0.6	488	0	1	0	7.4	1.5
NWA	2431	1	1	2.1	1.0	2489	0	3	1	6.8	0.9
OAL	55	2	0	2.3	1.1	56	0	2	0	7.9	0.2
RRR	154	0	23	2.2	0.0	158	0	24	0	8.3	1.5
SAB	68	0	3	1.9	0.4	70	0	3	0	5.7	0.7
SAS	1459	0	0	1.7	-0.3	1441	0	2	1	6.2	0.8

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				BIAS
		PG	PR	RMS	BIAS		PG	PR	PC	RMS	
SIA	54	0	2	1.5	-0.7	55	0	2	0	6.7	0.8
SPP	102	0	11	1.8	-0.4	106	0	15	0	8.9	0.3
SVA	100	1	3	1.9	0.5	105	0	6	2	7.7	-0.2
SWR	212	0	5	2.0	0.0	216	0	2	0	8.4	1.8
TAP	282	0	9	2.3	0.8	284	0	10	0	10.3	0.8
TEJ	35	0	17	1.5	-0.1	36	0	22	0	10.0	1.7
TOW	68	0	0	2.0	0.3	70	0	1	0	8.6	0.5
TSC	99	0	7	2.7	0.1	100	0	14	1	9.9	2.5
TWA	942	1	2	1.8	-0.1	944	0	3	1	8.1	1.2
UAL	1451	0	1	2.0	-0.5	1488	0	1	0	7.2	1.1
ULE	139	1	4	1.5	-0.1	142	0	5	1	7.9	1.5
UPS	482	0	13	1.6	-0.3	486	0	15	0	8.7	1.5
USA	119	0	2	1.7	-0.3	121	0	2	0	6.1	1.5
VIA	96	2	5	2.0	0.8	98	1	5	0	8.1	0.5
VIR	212	0	0	1.8	-0.2	221	0	2	0	7.9	1.9
BA	7976	0	21	1.6	0.5	7966	0	21	0	7.0	1.4
KL	4825	0	50	2.5	2.1	4824	0	21	0	6.1	1.2
LH	685	0	6	1.8	0.2	668	0	7	1	5.6	0.5
M	92	1	100	2.9	1.1	96	0	100	0	11.7	1.6
N	269	1	2	2.7	1.2	274	0	3	0	7.6	0.6

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS		:Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBLK	00	Z	100	1	0	0.0	3.0	-3.0
DBLK	12	Z	100	4	0	9.4	11.4	-6.5
EHOA	00	Z	100	1	0	0.0	2.0	2.0
EHOA	12	Z	100	20	0	13.8	22.4	17.6
FNGR	00	Z	100	1	0	0.0	4.0	4.0
FNOR	00	Z	100	12	0	22.3	27.0	15.2
FNOR	12	Z	100	12	0	19.5	19.8	-2.8
FNOU	00	Z	100	8	0	43.6	45.8	14.0
FNOU	12	Z	100	8	0	32.1	32.2	-2.9
FNPH	00	Z	100	13	0	19.6	20.3	-5.2
FNPH	12	Z	100	7	0	12.2	20.5	-16.4
FNRS	00	Z	100	16	0	23.9	24.0	1.8
FNRS	12	Z	100	12	0	12.0	15.4	-9.6
GACA	00	Z	100	28	0	11.7	23.2	20.0
GACA	12	Z	100	26	0	13.8	14.0	2.3
GH	00	Z	100	1	0	0.0	14.0	14.0
JCCX	00	Z	100	1	0	0.0	28.0	28.0
JDWX	00	Z	100	1	0	0.0	10.0	-10.0
JIVB	00	Z	100	1	0	0.0	4.0	-4.0
LDWR	00	Z	100	31	0	13.1	14.5	6.1
LDWR	12	Z	100	28	0	9.5	12.8	-8.5
OXVH2	00	Z	100	9	0	11.6	18.6	14.6
OXVH2	12	Z	100	6	0	12.3	13.3	5.0
OXYH2	00	Z	100	14	0	23.7	29.4	17.4
OXYH2	12	Z	100	10	0	12.6	27.1	24.0
SHIP	00	Z	100	1	0	0.0	28.0	28.0
SHIPAF	00	Z	100	8	1	10.3	37.0	35.5
SHIPAF	12	Z	100	5	0	15.9	29.6	25.0
SHIPS	12	Z	100	1	0	0.0	29.0	29.0
UQYC	00	Z	100	1	0	0.0	3.0	3.0
V/GH	00	Z	100	1	0	0.0	8.0	-8.0
V2GH	00	Z	100	9	0	11.4	12.0	-3.9
V2GH	12	Z	100	16	0	21.6	24.0	10.4
V2LV	00	Z	100	27	0	20.6	21.0	-4.1
V2LV	12	Z	100	24	0	26.2	26.2	0.3
V2LX	00	Z	100	28	0	14.8	14.9	-1.6
V2LX	12	Z	100	24	0	16.2	20.9	-13.2
WTEA	00	Z	100	1	0	0.0	25.0	25.0
ZDLG	12	Z	100	9	0	27.0	28.1	7.8
03953	00	Z	100	30	0	16.1	17.5	7.0
03953	12	Z	100	28	0	17.5	17.8	-3.3
04018	00	Z	100	31	0	14.4	31.6	28.1
04018	12	Z	100	29	0	13.1	33.8	31.1
04220	00	Z	100	31	0	15.6	26.3	21.2
04220	12	Z	100	28	0	9.0	26.6	25.0
04270	00	Z	100	31	0	16.8	22.9	15.5
04270	12	Z	100	29	0	16.4	25.5	19.5
04339	00	Z	100	30	0	36.8	39.7	14.7
04339	12	Z	100	28	0	11.7	33.7	31.6
04360	00	Z	100	31	0	14.7	25.5	20.8
04360	12	Z	100	29	0	15.1	32.8	29.1
08001	00	Z	100	26	0	22.9	27.6	15.4
08001	12	Z	100	24	0	15.5	16.7	6.4
08508	00	Z	100	30	0	17.0	20.7	11.9
08508	12	Z	100	28	1	18.2	18.3	1.8
08594	00	Z	100	29	0	13.4	16.3	9.3
08594	12	Z	100	23	0	42.3	42.7	5.5
60020	00	Z	100	29	0	29.6	34.2	17.2
60020	12	Z	100	29	0	25.7	27.9	-11.0
71600	00	Z	100	31	0	15.1	36.2	32.8

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
71600	12	Z	100	29	0	9.2	24.9	23.2
72201	00	Z	100	27	0	19.6	44.7	40.1
72201	12	Z	100	26	0	21.4	47.8	42.7
72402	00	Z	100	30	0	21.1	72.2	69.1
72402	12	Z	100	27	0	23.2	65.4	61.2
74494	00	Z	100	28	0	20.9	21.3	4.0
74494	12	Z	100	28	0	34.9	55.0	42.5

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS		:Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBLK	00	Z	500	1	0	0.0	10.0	-10.0
DBLK	12	Z	500	4	0	12.5	17.0	-11.5
EHOA	00	Z	500	1	0	0.0	12.0	12.0
EHOA	12	Z	500	21	0	17.9	22.7	13.9
FNGR	00	Z	500	1	0	0.0	5.0	-5.0
FNOR	00	Z	500	14	0	10.1	13.6	9.1
FNOR	12	Z	500	14	0	10.5	13.2	7.9
FNOU	00	Z	500	8	0	22.4	24.8	10.6
FNOU	12	Z	500	10	0	38.0	39.4	10.4
FNPH	00	Z	500	13	0	9.1	9.1	-0.5
FNPH	12	Z	500	7	0	5.1	5.1	-0.1
FNRS	00	Z	500	16	0	20.4	20.9	-4.5
FNRS	12	Z	500	13	0	8.4	8.8	-2.5
GACA	00	Z	500	29	0	8.7	11.4	7.3
GACA	12	Z	500	26	0	10.8	11.1	-2.7
GH	00	Z	500	1	0	0.0	6.0	-6.0
JCCX	00	Z	500	1	0	0.0	4.0	-4.0
JDWX	00	Z	500	1	0	0.0	5.0	5.0
JIVB	00	Z	500	1	0	0.0	6.0	6.0
LDWR	00	Z	500	30	0	12.7	13.5	4.8
LDWR	12	Z	500	28	0	9.5	9.9	-2.6
OXVH2	00	Z	500	9	0	11.1	13.9	8.3
OXVH2	12	Z	500	6	0	16.3	21.3	-13.7
OXYH2	00	Z	500	15	0	27.0	28.3	8.7
OXYH2	12	Z	500	10	0	9.4	9.5	1.1
SHIP	00	Z	500	1	0	0.0	38.0	38.0
SHIPAF	00	Z	500	15	0	13.7	17.9	11.5
SHIPAF	12	Z	500	15	0	12.1	14.5	8.0
SHIPS	00	Z	500	3	0	17.7	19.9	9.0
SHIPS	12	Z	500	2	0	0.5	15.5	15.5
UQYC	00	Z	500	1	0	0.0	41.0	-41.0
V/GH	00	Z	500	1	0	0.0	2.0	-2.0
V2GH	00	Z	500	11	0	5.7	8.3	-6.0
V2GH	12	Z	500	20	0	25.9	27.1	8.1
V2LV	00	Z	500	29	0	10.2	10.9	3.9
V2LV	12	Z	500	25	0	10.7	11.5	4.2
V2LX	00	Z	500	28	0	6.8	7.5	3.2
V2LX	12	Z	500	25	0	8.1	8.4	-2.4
WTEA	00	Z	500	1	0	0.0	21.0	21.0
ZDLG	12	Z	500	9	0	13.8	23.2	18.7
03953	00	Z	500	31	0	6.7	9.9	7.2
03953	12	Z	500	29	0	11.9	12.0	1.9
04018	00	Z	500	31	0	9.4	16.1	13.1
04018	12	Z	500	29	0	9.1	14.1	10.8
04220	00	Z	500	31	0	7.8	9.7	5.8
04220	12	Z	500	28	0	9.9	11.5	5.9
04270	00	Z	500	31	0	13.1	15.9	8.9
04270	12	Z	500	29	0	11.0	12.4	5.8
04339	00	Z	500	29	1	13.9	15.0	5.7
04339	12	Z	500	27	0	9.5	12.7	8.4
04360	00	Z	500	31	0	8.9	9.7	3.8
04360	12	Z	500	29	0	9.7	10.3	3.4
08001	00	Z	500	27	0	12.2	13.4	5.6
08001	12	Z	500	26	0	15.1	15.2	-1.7
08508	00	Z	500	30	0	7.2	13.9	11.9
08508	12	Z	500	29	0	8.5	9.1	3.2
08594	00	Z	500	29	0	8.1	8.4	2.3
08594	12	Z	500	25	0	7.4	7.9	-2.8
60020	00	Z	500	29	0	10.9	18.9	15.4
60020	12	Z	500	29	0	15.6	16.3	4.6

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
71600	00	Z	500	31	0	8.8	9.9	4.4
71600	12	Z	500	29	0	8.7	12.4	8.8
72201	00	Z	500	30	0	5.8	15.7	14.6
72201	12	Z	500	28	0	7.1	13.2	11.1
72402	00	Z	500	30	0	8.7	17.5	15.2
72402	12	Z	500	27	0	7.5	13.3	11.0
74494	00	Z	500	28	0	12.3	13.0	-4.1
74494	12	Z	500	28	0	11.6	11.7	0.8
78016	12	Z	500	15	0	15.9	15.9	0.1

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS		:Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBLK	00	V	100	1	0	0	5.4	-4.0	5.1
DBLK	12	V	100	4	0	0	5.4	-2.8	1.3
EHOA	00	V	100	1	0	0	4.8	-0.3	0.1
EHOA	12	V	100	20	0	0	4.8	-1.8	2.5
FNGR	00	V	100	1	0	0	4.4	1.7	-6.1
FNOR	00	V	100	12	0	0	4.4	-1.5	1.1
FNOR	12	V	100	12	0	0	2.2	-1.7	0.9
FNOU	00	V	100	7	0	0	3.0	-3.4	-0.1
FNOU	12	V	100	8	0	0	3.0	-3.0	-0.4
FNPB	00	V	100	14	0	0	3.0	-2.1	0.9
FNPB	12	V	100	7	0	0	4.2	-0.8	0.3
FNRS	00	V	100	16	0	0	4.2	-1.2	0.9
FNRS	12	V	100	12	0	0	3.6	-2.8	0.0
GACA	00	V	100	27	0	0	3.5	0.0	-0.8
GACA	12	V	100	26	0	0	2.0	0.2	-0.2
GH	00	V	100	1	0	0	1.9	-1.7	5.7
JCCX	00	V	100	1	0	0	1.9	0.4	0.7
JDWX	00	V	100	1	0	0	1.9	1.0	-4.7
JIVB	00	V	100	1	0	0	1.9	0.3	3.2
LDWR	00	V	100	29	0	0	1.9	-0.5	-0.6
LDWR	12	V	100	26	0	0	1.4	-1.0	-0.2
OXVH2	00	V	100	9	0	0	1.1	0.1	2.4
OXVH2	12	V	100	6	0	0	1.1	-0.3	0.4
OXYH2	00	V	100	13	0	0	1.1	-0.3	0.3
OXYH2	12	V	100	10	0	0	1.7	0.1	0.3
SHIP	00	V	100	1	0	0	1.0	-2.3	1.8
SHIPAF	00	V	100	5	0	0	1.0	0.1	1.5
SHIPAF	12	V	100	3	0	0	1.0	-0.7	0.1
SHIPS	12	V	100	1	0	0	1.0	1.6	-0.9
UQYC	00	V	100	1	0	0	1.0	0.1	1.3
V2GH	00	V	100	9	0	0	1.0	-1.2	-0.5
V2GH	12	V	100	14	0	7	1.0	1.6	-0.5
V2LV	00	V	100	27	0	0	3.2	0.9	0.5
V2LV	12	V	100	24	0	0	4.4	0.0	0.8
V2LX	00	V	100	28	0	0	3.7	0.0	-0.7
V2LX	12	V	100	24	0	0	3.5	-0.7	-0.7
WTEA	00	V	100	1	0	0	3.2	-0.6	1.8
ZDLG	12	V	100	8	0	0	3.4	-0.4	5.7
03953	00	V	100	30	0	0	1.7	0.5	-0.4
03953	12	V	100	28	0	0	2.3	-0.1	0.4
04018	00	V	100	29	0	0	1.8	0.4	0.5
04018	12	V	100	29	0	0	2.4	0.3	-0.8
04220	00	V	100	31	0	0	1.9	0.0	0.5
04220	12	V	100	29	0	0	1.8	-0.1	0.8
04270	00	V	100	31	0	0	2.2	0.5	1.4
04270	12	V	100	29	0	0	2.6	-0.5	0.4
04339	00	V	100	30	0	0	2.4	0.5	0.4
04339	12	V	100	28	0	0	1.5	0.5	-0.4
04360	00	V	100	30	0	0	1.3	0.3	0.6
04360	12	V	100	28	0	0	1.9	0.0	-0.6
08001	00	V	100	25	0	0	2.7	-1.6	0.7
08001	12	V	100	23	0	0	3.4	-1.3	0.0
08508	00	V	100	30	0	3	2.5	-0.9	-0.6
08508	12	V	100	29	0	0	7.2	-2.1	-0.2
08594	00	V	100	25	0	0	3.4	0.0	4.3
08594	12	V	100	23	0	0	2.5	-2.6	6.1
60020	00	V	100	29	0	0	2.5	2.1	1.7
60020	12	V	100	28	0	0	3.7	0.8	1.7
71600	00	V	100	31	0	0	4.5	0.9	0.2
71600	12	V	100	29	0	0	2.7	0.3	0.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
72201	00	V	100	27	0	0	3.0	1.4	0.0
72201	12	V	100	26	0	0	3.7	-0.9	-1.1
72402	00	V	100	30	0	0	4.3	-0.8	-0.6
72402	12	V	100	27	0	0	3.4	-1.5	-0.8
74494	00	V	100	28	0	0	6.4	0.1	-0.3
74494	12	V	100	27	0	0	2.6	-1.1	0.9

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
 MONITORING CENTRE: BRACKNELL
 MONTH: May, 95

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s ⁻¹
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS		:Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBLK	00	V	500	1	0	0	3.5	1.8	-1.0
DBLK	12	V	500	4	0	0	3.5	0.4	0.3
EHOA	00	V	500	1	0	0	7.9	-2.4	1.9
EHOA	12	V	500	21	0	0	7.9	-2.2	0.4
FNGR	00	V	500	1	0	0	2.4	-1.8	2.8
FNOR	00	V	500	14	0	0	2.4	0.0	-1.9
FNOR	12	V	500	14	0	0	2.8	0.6	0.0
FNOU	00	V	500	8	0	0	2.7	1.1	-1.2
FNOU	12	V	500	10	0	0	2.7	-0.8	-0.6
FNPB	00	V	500	14	0	0	3.3	0.3	-0.1
FNPB	12	V	500	8	0	0	3.4	0.8	-1.4
FNRS	00	V	500	16	0	0	3.4	0.4	-0.2
FNRS	12	V	500	13	0	0	2.9	-0.5	0.4
GACA	00	V	500	29	0	0	3.6	0.2	0.2
GACA	12	V	500	26	0	0	2.3	-0.8	-0.4
GH	00	V	500	1	0	0	2.8	-3.3	-2.6
JCCX	00	V	500	1	0	0	2.8	-0.6	-0.2
JDWX	00	V	500	1	0	0	2.8	-2.1	-1.0
JIVB	00	V	500	1	0	0	2.8	1.6	-0.1
LDWR	00	V	500	25	0	0	4.1	0.0	0.4
LDWR	12	V	500	25	0	0	2.8	0.0	-0.1
OXVH2	00	V	500	9	0	0	3.4	0.1	0.7
OXVH2	12	V	500	6	0	0	3.4	-0.5	-0.2
OXYH2	00	V	500	15	0	0	3.4	0.4	0.6
OXYH2	12	V	500	10	0	0	3.3	-1.5	1.1
SHIP	00	V	500	1	0	0	2.7	-2.8	-0.1
SHIPAF	00	V	500	14	0	0	2.7	-0.1	0.3
SHIPAF	12	V	500	15	0	0	3.7	-1.1	-0.1
SHIPS	00	V	500	3	0	0	3.4	0.2	0.9
SHIPS	12	V	500	2	0	0	3.4	-3.1	-3.9
UQYC	00	V	500	1	0	0	3.4	-0.3	2.3
V/GH	00	V	500	1	0	0	3.4	0.6	0.8
V2GH	00	V	500	11	0	0	3.4	0.5	0.4
V2GH	12	V	500	20	0	5	2.1	0.7	-1.1
V2LV	00	V	500	28	0	0	2.9	-0.3	-0.2
V2LV	12	V	500	24	0	0	2.9	0.0	-0.3
V2LX	00	V	500	28	0	0	2.4	0.4	0.2
V2LX	12	V	500	25	0	0	2.2	0.1	-0.3
WTEA	00	V	500	1	0	0	2.6	-1.1	0.7
ZDLG	12	V	500	9	0	0	3.5	-1.0	1.6
03953	00	V	500	31	0	0	3.0	0.0	-0.3
03953	12	V	500	29	0	0	2.8	-0.2	0.7
04018	00	V	500	31	0	0	2.9	1.3	-0.2
04018	12	V	500	29	0	0	2.8	-0.3	0.6
04220	00	V	500	30	0	0	3.1	0.1	0.3
04220	12	V	500	28	0	0	2.9	-0.3	0.8
04270	00	V	500	31	0	0	2.7	0.3	0.0
04270	12	V	500	29	0	0	2.3	0.6	0.2
04339	00	V	500	30	0	0	4.0	0.2	0.9
04339	12	V	500	27	0	0	3.2	0.2	0.2
04360	00	V	500	31	0	0	3.2	-0.3	1.0
04360	12	V	500	29	0	0	2.5	0.2	-0.9
08001	00	V	500	27	0	0	3.5	0.3	0.2
08001	12	V	500	26	0	0	3.3	0.9	-0.6
08508	00	V	500	30	0	0	3.1	0.2	-0.1
08508	12	V	500	29	0	0	3.0	0.1	-0.2
08594	00	V	500	27	0	0	2.2	-0.3	0.3
08594	12	V	500	24	0	0	2.2	-1.0	0.6
60020	00	V	500	29	0	0	3.3	-0.1	-0.5
60020	12	V	500	29	0	0	2.2	0.3	-0.2

*WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
71600	00	V	500	31	0	0	10.6	1.2	-0.4
71600	12	V	500	29	0	0	3.7	0.6	0.9
72201	00	V	500	29	0	0	3.5	0.1	-0.3
72201	12	V	500	28	0	0	2.0	0.6	-0.3
72402	00	V	500	30	0	0	3.6	1.3	0.9
72402	12	V	500	27	0	0	2.8	-0.2	2.2
74494	00	V	500	27	0	0	6.7	-0.1	-0.2
74494	12	V	500	28	0	0	2.4	-0.3	1.1
78016	12	V	500	14	0	0	4.3	1.3	0.3

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5,10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s ⁻¹
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45